Lumleian Lectures

ON

RHEUMATIC FEVER AND VALVULAR DISEASE.

Delivered before the Royal College of Physicians of London on March 23rd, 25th, and 30th, 1909,

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LECTURE III.[1]

Delivered on March 30th.

PROGNOSIS AND TREATMENT.

MR. PRESIDENT, CENSORS, AND FELLOWS OF THE COLLEGE,—The book called Προγνωστικόν in the Hippocratic writings seems at its beginning to promise to treat its subject in the widest sense in which the word can be used. τὸν ἰητρὸν δοκέει μοι ἄριστον εἶναι πρόνοιαν ἐπιτηδεύσιν. "He seems to me to be the best physician who knows how to know beforehand what will happen." "He will treat diseases best when he shall be able from knowledge of the patient's actual state to foresee the condition of the future." These are sentences of the preamble, but as the book goes on the subject is restricted to acute diseases and to a discussion of the interpretation of symptoms, not as bearing on particular maladies, but of the meaning of symptoms in relation to all forms of acute disease. The famous passage on the Facies Hippocratica occurs in this book, and, well known as it is, I will venture to quote it, since it is a perfect illustration of how the Prognosticon deals with its subject:—

In acute diseases the physician should make the following observations: he should examine first of all the face of the patient and should notice if his countenance is like that of men in health, but chiefly if it is like its own natural condition. This would be the most favourable condition, and the more it seems to differ from that the greater the danger. The features have attained the most extreme degree of alteration when the nose is pointed, the eyes sunken, the temples flattened, the ears cold and shrunken, the lobes of the ears prominent, the skin of the forehead dry, stretched, and rough, the skin of the whole face yellow, or black, or livid, or leaden. If from the onset of the disease the countenance shows these appearances, and if other symptoms do not furnish sufficient suggestions, the patient should be asked if he hath long watched, if he has had a severe diarrhœa, if he has suffered from hunger; the answer yes on one of these matters makes it right to think of the danger as less imminent. Such a morbid state when one of these causes has thus altered the countenance will be decided within a day and a night. But if the patient remembers no such cause and if the disease does not come to an end within that time it must be known that death is at hand.

Gnashing of teeth, movement of the hands, rapid breathing, sweats, the state of the hypochondrium, pulsations in the hypochondrium, dropsy, coldness of the hands and feet, sleep, the intestinal discharges, the urine, vomiting, expectoration, pains with fever, crises, pains in the head, sore throat, returns of fever—all these are discussed in their most general application to acute disease. The only special application to any single morbid condition is in the remarks on pneumonia and empyema. I may mention incidentally, because I do not remember to have noticed that it is pointed out in any of the commentaries, that Hippocrates here shows that he knew that empyema sometimes follows pneumonia.

Such is the Hippocratic treatise on prognosis, an attempt to arrive at general laws upon the interpretation for good or evil of particular symptoms. At the present day the word prognosis, I observe, generally suggests to the practiser or student of medicine a single inquiry and no more. Will the patient live or die? A sounder use of the word is to include under it the whole probable future of the disease after the diagnosis has been made in each particular case. The constant practice of such a way of considering each case is certainly to the advantage of the patient, for it cannot but have an important effect upon his treatment. It is in this sense that I propose to apply myself to the consideration of the prognosis of rheumatic fever and of valvular disease.

The first question to be discussed is the duration of rheumatic fever. How long does the organism continue to live on in the endocardium? Does it after an attack die out of its condition of multiplication, so that we can say the disease is absolutely at an end, as does the pneumococcus of pneumonia? Or does it, like the tubercle bacillus, live on indefinitely in the body, maintaining its lodgment, for a time not spreading, then again multiplying and doing more injury, sometimes finally dying out? Take the first ten cases you meet of rheumatic fever, what light do they throw on this question?

A girl, aged six years, had rheumatic fever in September, 1905, and was in St. Bartholomew's Hospital for six weeks. She came in again in December, 1905, for six weeks. She was an out-patient for six months for her consequent valvular disease, mitral regurgitation, and during these months occasionally complained of joint pain. Then came an interval in which she seemed well; from August, 1907, onwards, till on Dec. 4th, 1907, she had definite rheumatic fever and was re-admitted to the hospital.

Is not the appearance of such a case as regards its lasting but intermitting effects very like one of tuberculosis? Would anyone doubt with such a history of manifestations in a case of tuberculosis that the whole was due to the effects of the original settlement of bacilli in the body? Would the intermission of raised temperature and of other symptoms from August to December in the second year give rise to any doubt on the subject of the whole being one attack of tuberculosis?

A woman, aged 24 years, had well-marked rheumatic fever in July, 1908; in March, 1908, she had had an attack and had had one in 1904.

Supposing this patient had had hæmoptysis in 1904 and well-marked pulmonary symptoms in March and July, 1908, should we not have expected to find tubercle bacilli in her sputa in July, 1908, and should we not be certain that her illness began in 1904?

A woman, aged 25 years, who came into St. Bartholomew's on account of palpitation and shortness of breath in January, 1908, had mitral obstruction and regurgitation but no present pains in her joints or fever. She had had rheumatic fever in 1899, and in 1904 had been admitted to St. Bartholomew's Hospital for rheumatic fever and had stayed in hospital for six weeks. She had had rheumatic fever again in October, 1906, and was in bed for ten weeks. Since then she had had occasional pains in the joints.

If this patient had had dysentery in India in 1899, had got over it and had returned to England, and had been admitted to the hospital in 1904 with a chronic diarrhœa, with blood and mucus discharged from the bowel, and after treatment had got well and left and had come back again in October, 1906, with a similar diarrhœa, and if after seeming to recover she had now and then passed a little blood and mucus, would not much the most probable explanation be that her Indian infection was the cause of all the prolonged symptoms and that if she died we should find imperfectly healed old ulceration with scar tissue near it in the large intestine? Should we not venture to state as we went round the ward that that anatomical change was then present in her intestine and that the whole dated from her attack of dysentery in India in 1899?

A woman, aged 24 years, was admitted to one of my wards on Oct. 3rd, 1908, with rheumatic fever, of which the pains had begun on Sept. 21st. The pain and swelling of joints were well marked and she had mitral regurgitation. In 1900 she had chorea which lasted for seven months.

Might not this case be compared to that of a patient who had an attack of pleurisy on the left side, the nature of which was undetermined at the age of 16 years, and who had developed well-marked tuberculosis of the lung on the left side at the age of 24 years? Would it not be possible that the original infection had remained, that the pleurisy was due to a settlement of the tubercle bacillus which had since been so inactive as to produce no symptoms noticed by the patient, and which in 1908 under some favouring circumstances had been able to grow and produce the tuberculosis? If the original pleurisy had been shown to be tuberculous should we not at once admit that the tubercle of the lung eight years later was a probable development of the same infection? I have chosen this comparison because while we cannot be certain that an attack of chorea which we have not witnessed was of the variety which undoubtedly belongs to the series of phenomena of rheumatic fever, the presumption is strong that any chorea which occurred in the early life of a young patient with rheumatic fever was of that variety.

A woman, aged 24 years, was admitted to hospital on July 8th, 1908, with valvular disease, mitral regurgitation and aortic obstruction and regurgitation, but without symptoms of rheumatic fever. She had had rheumatic fever when aged eight years and had had 12 attacks since the first. The last attack was some time before May, 1908, so that she had 13 definite attacks in 15 years.

[1] Lectures I. and II. were published in THE LANCET of April 24th (p. 1159) and May 1st (p. 1227), 1909, respectively.

In the absence of an exact history of each attack and of the intervals we can only apply our knowledge of the frequency with which some pains appear between serious attacks, and the probability seems to be that this was one long period of rheumatic fever—that is, not of continuous fever, but of continuous disease due to the original infection, and to the constant presence of the organism to which rheumatic fever may be believed to be due.

A woman, aged 18 years, was admitted to hospital with rheumatic fever on August 24th, 1908. She had mitral obstruction and regurgitation. She had been admitted on three previous occasions with rheumatic fever and had thus had it under observation in 1898, 1900, 1902, and 1908.

Here again, if the analogy of tuberculosis has any force it may be applied to enable us to accept the probability that a particular organism was present in her system, probably in her endocardium, for ten years.

A boy, aged 16 years, was admitted to hospital on April 24th, 1907, with rheumatic fever. He had at the time mitral regurgitation and aortic obstruction and regurgitation. In 1896, when aged five years, he was in bed for six months with rheumatic fever; in 1897 he had chorea for seven weeks; in 1898 rheumatic fever; in 1899 rheumatic fever for eight weeks, and in 1904 another attack.

Supposing this boy had acquired the hæmatozoon of tertian ague in a malarious region in 1896 and had soon after moved to a healthy part of England we should have had no difficulty in believing that a recurring tertian fever was due to the parasite. I have myself observed a case in which a tertian ague continued at intervals for nine years, and have read of longer liability to the fever. The possibility of obtaining the hæmatozoon from the blood of course supplies a test of the continuity which must be absent while the micro-organism of rheumatic fever is unknown.

A boy, aged 12 years, was admitted to hospital with rheumatic fever in January, 1907. He had mitral regurgitation. In the summer of 1903 he had had an attack of rheumatic fever and since had had pains in his joints with fever at intervals.

A boy, aged 11 years, was admitted to hospital with rheumatic fever and had mitral regurgitation. His present attack seemed to have begun on Nov. 1st, 1906, and he had a similar attack three years before.

A boy, aged nine years, was admitted to hospital with rheumatic fever on Sept. 24th, 1904. He had disease of both mitral and aortic valves. In 1903 he was in the hospital with rheumatic fever for nine weeks and was readmitted in May, 1904, and was under observation till the beginning of August.

The history in this last case for more than a year was nearly continuous, and in this, as in the former two, the analogy of a development of the tubercle bacillus may be used to explain the course of a disease dependent on the organism of rheumatic fever.

It would, of course, be easy to mention many more such cases, but I have perhaps said enough to satisfy you that there is nothing unlikely in the view that the several attacks of rheumatic fever from which so many patients suffer are really successive developments of an organism which remains in the endocardium throughout the series of attacks. Thus, using the word rheumatic fever for the condition present when this organism is in the system, whether developed or in a potential state of development, I arrive at the conclusion that rheumatic fever has a variable duration. It sometimes, though rarely, lasts two months and no more. It frequently lasts from three to ten years and may last longer still. A short attack is more probable after 30 years of age than before. A long attack is most likely to occur when the disease begins in early childhood.

The answer to the question whether the patient will live or die in the first attack must, of course, be that he will not die in it. The cases of death said to be due to a first attack of rheumatic fever are generally diminished in number when minutely examined. Thus, a woman, aged 26 years, in St. Bartholomew's Hospital, under the care of the late Dr. Reginald Southey, had a loud systolic murmur, plainest at the apex, and some swelling of the right knee and fever. She had been ill for seven days, and she died three days later. It was supposed that she had rheumatic fever, but the post-mortem appearances seemed inconsistent with this view, though the endocardium was affected, and there were no signs of ulcerative endocarditis. The pericardium was adherent and in one part was calcified. The whole heart was dilated. The endocardium of the right auricle showed 18 small white specks, circular and encircled by an area of engorgement. These seemed on microscopic examination to be localised hæmorrhages of old standing, but what their nature was not discovered. There were 250 in the right ventricle, some in the left auricle, and many in the left ventricle. The valves had no such specks on them, nor had they any recent growths on them, though both the tricuspid and the mitral were incompetent. There was a small patch of recent lymph on the wall of the left auricle. The peritoneal surface of the intestines, the kidneys, and the liver contained similar specks, and it seemed possible that the disease was, in fact, a pyæmia, and that these were minute abscesses of various dates. As the post-mortem examination was made in 1879 the test of cultivation was not used.

That the illness beginning with a first attack of rheumatic fever will ultimately by the way of valvular disease be the cause of death is true of a large percentage of cases. In a smaller percentage the valvular disease, while not itself the immediate cause of death, is a chief contributing cause in some such acute disease as pneumonia. In another group of cases of valvular disease descended from an attack of rheumatic fever, a pericarditis perhaps of the same infection, perhaps of a pneumococcus or other organism, is the cause of death. In a small percentage again the rheumatic fever is a remote cause of death, since it has prepared the endocardium to receive the infection of ulcerative endocarditis or of influenza. In ten cases of ulcerative endocarditis an endocardium damaged in long past attacks of rheumatic fever was found in five. Thus rheumatic fever must be regarded as leading to a large sacrifice of life in at least four different ways of death. Will the endocarditis certainly leave permanent damage to some valve or valves? To this the answer is that a small percentage of patients receive no permanent damage, that a further small percentage receive damage, the signs of which after a lapse of time disappear, but that a large proportion of patients do acquire permanent valvular disease. It must be added that the proportion of cases which do not end in permanent valvular disease may certainly be increased by judicious treatment, just as judicious treatment diminishes the mortality in enteric fever, and that the commonest cause of a further continuance of the disease is letting the patient get up too soon.

The true result of an attack of rheumatic fever on the valves of the heart cannot be determined till after the patient has been up and about for some time and the tone of the myocardium has been completely restored. The injury to the valves may then prove to be much less than was before expected, and now and then it may prove to be unexpectedly greater. The valvular damage can as a rule be accurately determined three months after the patient's convalescence. The commonest valvular lesion after rheumatic fever is mitral regurgitation. The more often the febrile attacks are repeated the greater will be the degree of injury to the valves. In every case of rheumatic fever it is safe to predict that there will be no permanent damage to the joints. These are the chief points in the prognosis of rheumatic fever itself.

The prognosis of the several forms of valvular disease may properly begin with the general statement that death in mitral disease tends to occur gradually with long-preceding dropsy, and that in aortic disease, while the same method of termination may occur, there is also the permanent risk of a sudden termination of life.

The post-mortem appearances of the heart in cases of gradual death from valvular disease show that it is the enfeebled or degenerate condition of the myocardium which is the cause of the general dropsy and of the patient's death. The post-mortem appearances in cases of sudden death with disease of the aortic valves sometimes include a degenerate myocardium but in other cases show muscular tissue in which degeneration has not begun.

The temporary recovery which patients make from a condition of cardiac embarrassment, even if associated with extensive general dropsy, shows that an enfeebled myocardium may attain strength again and be able for some time longer to do its work. If at the supposed end of an attack of rheumatic fever a patient is left with distinct mitral regurgitation what will be the effect of that lesion upon his physical future and in what ways is that future affected? The first danger before him is that endocarditis is merely dormant, a danger to be met only by taking the fullest pains to ascertain that the attack is at an end. Further, rheumatic fever always means increased injury to the first affected valve with the possibility of injury to other valves. Let us suppose that no further endocarditis occurs. The imperfection in the circulation caused by the damaged valve is likely to be remedied by hypertrophy of the parts of the myocardium affected, of which the left ventricle is part. The apex beat,

therefore, is found lower down and further to the left than in a normal heart. The degree of hypertrophy of course depends on the difficulties to be overcome. To what extent will it go?

The heaviest heart due to mitral regurgitation alone which I have myself met with post mortem weighed 22 ounces. It was that of a man, aged 20 years, who had no chronic interstitial nephritis and no adherent pericardium or other valvular lesion than mitral regurgitation. The degree of hypertrophy in a man does not often make the heart exceed 16 ounces in cases of mitral regurgitation. A patient, aged 12 years, with mitral regurgitation may in the course of from six to eight years attain such a good working heart that he only feels the presence of the valvular lesion after great exertion. Alcohol will sometimes relieve the cardiac uneasiness which he feels after fatigue, and I have seen a few cases of chronic alcoholism which seemed traceable to the endeavour thus to overcome the sensations produced by an overworked heart with mitral regurgitation. The heart that has accommodated itself in course of years to a considerable mitral regurgitation will go on working well for years, and even into old age if it be not affected by fresh endocarditis of any kind and is not exposed to unfavourable conditions, of which too great physical exertion and prolonged mental distress or anxiety are the most important, and the next in importance such diseases as pneumonia and influenza. These are particularly dangerous to such hearts in two ways —the pneumococcus or the bacillus of influenza may attack the old damaged endocardium or they may originate pericarditis; and in either condition, besides the embarrassment due to it, considerable enfeeblement or further change in the myocardium must be expected and generally occurs. In this way such an attack is often fatal. Over-physical exertion seems to strain the muscular tissue and thus leads to great irregularity in the action of the heart, but rest and treatment may restore the heart to its former condition. Prolonged mental distress seems to have even a more severe effect on the condition of such a heart than too great physical exertion, and the restoration in such cases is often a matter of extreme difficulty. The condition of the heart seems directly traceable to the disturbance of the mind or of the feelings, and as the illness goes on with these unrelieved the condition of the heart itself seems to react on the mental state and to aggravate it. Such patients sometimes recover very slowly; sometimes the natural ultimate failure of a damaged heart seems hastened and they die from dropsy, but I have seen several in whom an attack of pericarditis—not extensive or with great effusion—terminated life.

In mitral regurgitation aches are occasionally felt in the heart wall, not confined to one spot but extending from base to apex. Very severe spasmodic pain is also sometimes felt which might be mistaken for angina pectoris, but when watched is seen to be different, in that it lasts a much longer time, often several hours, and does not give any sense of actually impending death. The occurrence of simple emboli and of right hemiplegia due to such an embolus are occasional incidents of a case of mitral regurgitation as also of aortic valvular disease and add further to the long list of the consequences of rheumatic fever.

If instead of merely allowing regurgitation the mitral orifice is greatly narrowed by adhesion of the flaps of the valve to one another, so that there is well-marked mitral stenosis, the patient will have a still less easy life, more palpitations, a more frequent sense of cardiac irregularity, and less power of work, and will altogether be in a more distressing condition, and one in which there are fewer possibilities of improvement by way of hypertrophy or in any way. The patient with mitral regurgitation, as we all know, may often live to old age; the patient with mitral stenosis very rarely indeed. The narrower the orifice the fewer will be the patient's years. The heart may be capable of very nearly regular action in a few cases, but even in these very little extra exertion is sufficient to make it embarrassed and very irregular. The lungs are permanently engorged and attacks of bronchitis are frequent. A distress which recurs after relief, and with each recurrence grows worse, is pain in the liver. The tenderness to the touch may be extreme and often there is a sense of stretching there which amounts to acute pain as the patient lies still. Sometimes there is a similar pain in the spleen. The urine becomes diminished in quantity and albuminous. The general discomfort may be increased by piles; ascites and anasarca of the legs and arms appear, and a continued reduction in the quantity of the urine which diuretics affect but little points to the constant engorgement and gradual hardening of the kidneys. Treatment and rest give relief, but it is rarely long-continued, and the patient's life, even if carefully regulated, consists of little more than longer or shorter intervals between painful attacks. At last the cardiac irregularity and tumultuous action are incessant, the dropsy becomes inveterate, the engorgement of the liver cannot be diminished any more, constant œdema of the lower lobes of the lungs is present, the imperfect aeration of the blood affects the brain, and the patient has temporary delusions when awake and dreadful dreams during restless and often interrupted sleep. Mitral stenosis is the most distressing of all the common forms of valvular disease. It gives the patient least ease and soonest terminates his life. If it has begun in the girlhood of a woman she seldom lives beyond 40 years of age if she is married and has children, or much later than 50 years if she lives unmarried under the most comfortable circumstances. I have seen very few men with mitral stenosis who reached the age of 50 years. I think it is the cares of a household rather than childbearing which makes the lives of married women with mitral stenosis shorter than those of spinsters, for during pregnancy the patient is often much less distressed by her heart than at any time, though after childbirth she sometimes perishes owing to the onset of a fresh endocarditis. The addition of tricuspid stenosis increases the obvious irregularity of the heart and adds to the distress and diminishes very much the duration of life. From each side of the heart simple emboli may be shot into the circulation and may produce hæmoptysis or hæmaturia, while other hæmorrhages may occur as results of venous engorgement.

The hypertrophy produced by mitral disease seldom increases the heart to more than twice its natural weight. That produced by disease of the aortic valves often does so and may be the origin of a hypertrophy reaching 30 or even 38 ounces. It is important to bear this general fact in mind in cases in which the cause of a systolic murmur is difficult to determine. If there is very great hypertrophy (and no other present cause, such as adherent pericardium or chronic interstitial nephritis), if with a heaving impulse the apex beat is in the sixth space and beyond the nipple line, then that hypertrophy alone makes it probable that aortic disease is present. Such cases generally terminate in a sudden death, and of all causes of transition from what seems fair health to immediate death aortic valvular disease is the most frequent. This sudden death may be very long deferred. Thus a patient who probably acquired aortic valvular disease in 1837, after a well-regulated life in which it rarely troubled him, died suddenly from his aortic disease while dressing one morning in 1900.

Angina pectoris is to be regarded as a likely incident in this form of valvular disease. Its occurrence at once, and generally correctly, suggests a near termination, but sometimes the patient goes on living a very long time. A man whose aortic valves became diseased between 1877 and 1880 found that hard mental work affected his heart soon after 1890 when he was 43 years of age, and in 1898 he had definite angina pectoris which never left him but continued for ten years. I have met with several other instances where a man who seemed likely to die very soon yet lived ten years under similar circumstances.

Such are a few of the points of prognosis in rheumatic fever and in valvular disease. They all involve a repeated consideration of the patient's state and of his account of it. In receiving such accounts of past attacks and pains a literal interpretation of words must not be used nor too much information expected. Johnson in his noble poem on the death of Levett, as he repeated it to Boswell—

> "In misery's darkest caverns known
> His ready help was ever nigh,
> Where hopeless anguish pour'd his groan
> And labour steals an hour to die"

—has a last line afterwards altered by him, which expresses with the force of true poetry an observation on human life made among those who can but just earn their living, the justice of which we, who have all of us known and respected in the wards of our hospitals many such people, can confirm. How many a man and woman have we seen who seemed barely able to spare the time to die and who had amid laborious occupations neglected to record in the mind or to

remember illnesses not great enough to prevent going to work.

There is another cause which obscures a man's life-history and which makes him subdue the sensation of cardiac irregularity and go on till the time for resting his heart is almost past and degeneration of the myocardium has begun. Alcohol at this serious and fatal cost obscures his condition from himself and keeps him going when he ought to be in bed. It does much to obscure the gradual, and often to be relieved, course of the valvular disease due to rheumatic fever and leads men to think symptoms sudden which are in reality but the last steps of a very gradual descent. Cases of this kind, of which there are very many, tend to spread the belief that death from valvular disease is a more rapid process than it really is.

Such are the points of prognosis which have struck me most.

The treatment of rheumatic fever proposed by Sydenham was based on the theory that it was an inflammation supported by the observation that the blood drawn from the rheumatic patient presented the same appearances as that drawn from one with pleurisy, a condition then universally described under the pathological heading inflammation. His first proceeding was to order ten ounces of blood to be taken from the arm on the side affected. The next day the bleeding was repeated; after one or two days there was a third bleeding, and after three or four days more a fourth bleeding, which was generally the last. A cooling julep, which was little more than a draught of sweetened water, was to be taken at the patient's pleasure. The painful joints were to be relieved by a poultice of white bread tinctured with saffron or by the repeated application of a cabbage-leaf. The diet was one of barley and oatmeal broth, all meat or meat broths being absolutely forbidden. The patient was allowed to drink small beer, everybody's daily drink at that time, or ptisans of barley, liquorice, or sorrel boiled in water. He was to keep some hours every day out of bed. On the alternate days to the bleedings enemata of milk with sugar were given and for eight days after the last bleeding. After that a purge was to be taken in the morning and the same evening a large dose of diacodium in cowslip water. Then the patient was allowed gradually to return to his wonted way of living with one caution—that he should drink no wine and no spirits and should avoid salted and spiced meats and anything difficult of digestion for a long time. "Pains," says Sydenham, "will thus be lessened, but will remain about for a long time."

Dr. Peter Mere Latham, who wrote in 1845 and whose knowledge of the practice of his day went back to a few years before the battle of Waterloo, had seen rheumatic fever treated by bleeding, by opium (2 to 5 grains every 24 hours), by calomel, by colchicum, and by drastic purgatives. When he was a student at St. Bartholomew's Hospital from about 1810 to 1814 the treatment of rheumatic fever usual there was to give a dose of liquor ammoniæ acetatis three times a day and an opiate at night—a humane method perhaps traceable to the practice of the enlightened David Pitcairn. He himself thought bleeding expedient in many cases. His view about it in the reign of Queen Victoria was much the same as that of Sydenham in Charles II.'s. He had used opium with success, though as, unlike Sir William Gull, he had never thought it right to leave cases quite untreated, he had, he admits, no sufficient standard of comparison to tell him whether he had done more than relieve pain. On the whole, he thought that the best plan of treatment was that by large (10 to 20 grains) and repeated doses of calomel followed by purgatives. I was a clinical clerk at St. Bartholomew's Hospital about a quarter of a century after the end of Dr. Peter Mere Latham's active life in his profession, beyond which his honoured age lasted for many years. His method was entirely obsolete and the general method of treatment of rheumatic fever was by alkaline salts. This method and several others have since become obsolete, and for the present, so far as the Pharmacopœia is concerned, it seems clear that the salicylates are much more efficient than any remedy of past times. They lead to a rapid cessation of the pain and swelling of the joints, and when continuously administered in the dose proper to each patient over several weeks they seem, so far as the temperature chart and the absence of further symptoms enable one to judge to prevent the further development of the organism in the endocardium or to destroy it altogether. The difficulties of administration which occur in particular individuals can generally be overcome by a little ingenuity in prescribing. A more rapid extermination of the organism is desirable, and for this we have yet to seek a drug. For the present that which we have does a good deal for the relief of the patient's pains while it is not inoperative in the process of terminating his malady.

We rightly regard the keeping the patient sufficiently long in a condition of absolute rest in bed as one of the greatest modern improvements—as compared with the practice of past times—in the treatment of enteric fever, and I think we may believe that there is no practiser of medicine in England who fails to carry it out thoroughly. I wish to urge the importance of a similar unanimity with regard to rheumatic fever. My experience leads me to the belief that there is always fear of re-development of the disease if the patient is allowed to leave his bed till his temperature has been absolutely normal, without any rise whatever above the normal line, for three weeks at least from the last rise. After this he ought long to be watched day by day with the aid of a temperature chart; and if in the week of his leaving bed or later any definite rise is observed, he ought to go back to bed for a further three weeks. If no rise occur he ought still to continue under observation for three months, if possible, taking salicylates or similar drugs in adequate but diminishing quantities, and all this time his life should be so ordered that no strain is put upon his heart. If he is a boy at school he is not to take part in games all this time. If he is at home he is to take carefully regulated exercise and to have one rest or more in the day as well as a long night.

Perhaps in hospitals it may prove that three weeks of normal temperature is not enough before allowing the patient to get up. This may be discovered when three weeks have come to be generally adopted as a minimum period. I am certain that an earlier day of getting up only leads to prolongation of the disease.

One point which I wish to urge about the valvular disease due to rheumatic fever is the importance, when we see such cases, of taking the temperature or asking for a temperature chart. Thus only can we be certain that endocarditis is not present and that our treatment ought not to require that the patient stay in bed. Most physicians have seen children who walked to the hospital and who had the day before played about who, when examined, had raised temperature and such marked alteration of cardiac sounds that it was certain they had had endocarditis for several days. Arthritis was, of course, present, but of some small joint and causing only a little pain. Thus, when seeing a case of valvular disease in a young person, the first question to which the observer must ascertain the answer is not, when had he rheumatic fever, but has he got rheumatic fever at present. Thus the observer will come to know whether he has to treat a condition of acute endocarditis or one in which he is to try to relieve the heart in difficulties which it suffers from this or that simple or complex valvular defect.

As to this last part of the subject, it would be obviously impossible within the limits of these Lumleian lectures to deal with it. If, like the accomplished Sir Charles Scarburgh, versed alike in medicine, in anatomy, in Greek, and in mathematics, I were to hold the lectureship for 38 years I might perhaps, if I had his abilities as well as his time, exhaust all that there is to be said on valvular disease in all its forms. Or if like the learned and judicious Dr. Richard Powell, the first describer of facial palsy, I were to hold the lectureship for ten years, I might make considerable progress in the statement of sound principles of treatment and the refutation of much that is foolish which has been said about it; but my measure is smaller and my course of lectures is finished. Your time and mine will not have been wasted if I have persuaded you, and through you our profession at large, (I.) that rheumatic fever is a single definite disease; (II.) that endocarditis is always an essential part of it; (III.) that its duration may extend over many years, and that these circumstances, but half demonstrated as they necessarily are at present, are still the safest indications of method in the treatment of the disease.

Lord Lyndhurst, the Chancellor, once said in conversation, "I consider that the worst exaggerator is the person who understates." The remark was original and wise. It is

illustrated in the books of many writers on rheumatic fever. They understate the conclusions which their own experience would allow. I have tried to avoid this fault and to state the conclusions to which my own experience has led me without abatement and without reservation. I have ventured to risk the censure which might attend such a course because I believe that the adoption of these opinions would not merely lead to a saving of lives but also to the prevention of many of the fatigues, disappointments in work, checks in usefulness, and other inconveniences which follow the valvular disease consequent on the endocarditis of rheumatic fever.

An Address
ON
GALL-STONES,

Delivered before the South-West London Medical Society on Jan. 13th, 1909,

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GENTLEMEN,—When your President and Council did me the honour to invite me to address you this evening I decided that I would choose as my subject "Gall-stones." Among the reasons for my choice were the facts that gall-stones constitute one of the most frequent of all the many morbid conditions to which the human body is liable, that their existence and their causal relationship to many grave forms of disease remain in many instances unrecognised, at least for a considerable time, and my conviction that the aid of the surgeon in cases of gall-stones, often sought too late, cannot be summoned too early. Time will only permit me to deal superficially with my subject, as it is too vast for adequate description in one address. I have no intention of describing the technique of the various operations that may be employed, as I have been informed that my audience is essentially composed of general practitioners, not of operating surgeons.

Let me remind you that though biliary calculi are far most frequently found in the gall-bladder, yet they may be found within the liver itself in one of the rootlets of the hepatic duct. Such hepatic stones, I believe, are rare, and are discovered on the post mortem, rather than on the operating, table. I have been struck by the fact that the size and number of biliary calculi bear no relation to the symptoms which they may produce. The largest gall-stone that I have removed is this which I show you (from a patient under the care of Dr. Arthur Farr). It measures two inches in length and three and a half inches in circumference measured at right angles to its long diameter. The smallest amount of concretion was represented by half a saltspoonful of fine sand, and yet in this case the symptoms were so urgent that immediate removal of the gall-stones was recommended by Dr. A. H. Vassie and myself. As to number, gall-stones may be solitary or very numerous. Solitary gall-stones are by no means rare; the three that I now show you were removed by me during the past year. They are all, as you will observe, pear-shaped or oval, and lack the facets so characteristic of multiple calculi. Biliary calculi are largely composed of cholesterin which forms about 80 per cent. of their bulk, bilirubin and insoluble lime salts, held together by an albuminoid scaffolding.

Little is known of the mode of formation of gall-stones. The cholesterin may be derived from the bile by precipitation, as the latter contains only about 2 per cent. of cholesterin, but it is now commonly believed that the cholesterin, the bilirubin, and calcium salts, and the albuminoid framework, all owe their origin to catarrh of the mucous membrane of the gall-bladder (lithogenous catarrh) commonly, if not invariably, of microbic origin. I believe that in all cases microbic infection of the mucosa of the gall-bladder is the chief causal agent in the production of gall-stones. It acts by giving rise to inflammation of the mucous lining of the gall-bladder and ducts, and thus forming mucoid masses around which are deposited cholesterin, bilirubin, and lime salts.

I am convinced that typhoid fever is a potent cause of gall-stone formation. A history of typhoid fever has been present in more than a quarter of the cases upon which I have operated. I have found typhoid bacilli in the gall-bladder three years after all symptoms of this disease had ceased, and have operated upon cases of typhoid cholecystitis. If this be true of the bacillus typhosus, surely it is only reasonable to suppose that other microbes which may gain access to the interior of the gall-bladder, either by way of the common bile-duct from the duodenum, or possibly by the blood stream, may have the same power. It is by no means uncommon to find gall-stones apparently dating from an attack of gastro-duodenal catarrh. In nine out of ten of my gall-stone cases in which a bacteriological examination was made, micro-organisms, chiefly bacillus coli, bacillus typhosus, and staphylococci, were found.

Gall-stones, as is well known, are more common in the female than in the male subject, and in those over 40 years of age, who are stout and indolent. The proportion of cases in private practice is far greater than among hospital patients, and among large eaters than among those who indulge freely in alcohol. I have found gall-stones more frequently among total abstainers than among those who drink alcohol, the reason being, I believe, that teetotalers are in general large eaters. A statement which is undeniable is that biliary calculi are many times more frequent in women who have borne children than in those who are childless. Few medical men seem to recognise how common biliary calculi are. From various statistics it is certain that they are found at necropsies in 9 per cent. of all adults and in 27 per cent. of women over 50 years of age. Though I have for many years been surgeon to a large children's hospital, I have only once found gall-stones in a child under 12 years of age.

SYMPTOMS AND RESULTS OF GALL-STONES.

With these preliminary observations, allow me now to pass under review some of the symptoms and results of gall-stones. In the first place, let me say that though I am a surgeon I admit freely that in a considerable number of cases gall-stones give rise to no symptoms, or perhaps I should say to none recognised by the medical attendant, and this especially in cases in which bile can pass easily into the intestine. How often has it happened that a necropsy has revealed a gall-bladder containing many calculi, the presence of which has never been suspected during life. Such instances have, in my experience, mostly occurred in old patients. In many cases, however, stones in the gall-bladder give rise to many and diverse symptoms, and not infrequently produce results of extreme gravity. Allow me to remark that there is no morbid condition of equal frequency that is more commonly overlooked than cholelithiasis. When there are no symptoms whatever and the patient enjoys freedom from discomfort, the non-recognition of gall-stones is readily comprehended. But permit me to point out that we see many times a year cases of gall-stones which cause symptoms and which ought to be diagnosed as such, but are not. The reason of this failure of diagnosis is that the patient refers all his, or her, pain and discomfort to the stomach and not to the gall-bladder or liver. The great majority of patients, possessors of gall-stones, have, I am convinced, been treated for months, and even years, for dyspepsia, chronic gastric catarrh, pain referred to the epigastrium, and flatulent distension of the stomach—i.e., for the conditions of which they themselves complained, whereas the real cause of their suffering and ill-health was the presence of calculi in the gall-bladder. How frequently has every surgeon known the old woman who has for years been treated for indigestion and wind on the stomach until some new symptom drew attention to her gall-bladder, when the stones were removed, and all stomach troubles completely disappeared. My firm belief is that the majority of flatulent dyspeptic women who attend the medical out-patient room with such wondrous regularity to receive their weekly bottle of medicine are really suffering from gall-stones. I do not expect you to believe me, but I think that I am right and that I have the high authority of Mr. Moynihan on my side. Many of these patients, victims of unrecognised gall-stones, suffer from attacks of vomiting, many from pain in the right

shoulder, or some part of the scapula, especially its lower angle. Nearly all of them complain of a feeling of nausea and of a distaste for food, at least at times; many complain of a pain in the gall-bladder region, but tenderness—i.e., pain on pressure over the gall-bladder—is not always to be made out. Bear in mind that the contracted gall-bladder may be at a considerable distance from the surface. In many patients, however, who complain of no gall-bladder tenderness this symptom may be elicited by pressing the fingers deeply under the liver during full expiration, and then asking the patient to take a deep inspiration.

Jaundice is quite the exception in cases of gall-stones, save when impacted in the common bile-duct. It has been entirely absent in more than 85 per cent. of my cases. We must distinguish between (1) inflammatory—i.e., microbic—jaundice, such as may result apart from cholelithiasis, e.g., may be a sequel of cholecystitis; and (2) lithogenous jaundice, which is at first, at any rate, a mechanical process and due to the blockage of the common bile-duct by a firmly impacted calculus. Lithogenous jaundice from this cause is seldom so marked as jaundice due to the pressure of a tumour from outside on the common bile-duct—e.g., cancer of the head of the pancreas. Let me mention in this place the ball-valve calculus in the common duct. Take a case in which a calculus has passed half-way down the duct. That part already traversed by the calculus is dilated by the passage of the stone and by the *vis a tergo* of the accumulated bile; jaundice results. Then the calculus slips back into the dilated duct segment and bile flows into the intestine; again the calculus drops down and obstructs the non-dilated segment of the duct, and this process repeats itself indefinitely. This is the explanation of the fact that in chronic common duct calculous obstruction jaundice may be but slightly marked or be entirely absent. Many a patient has a stone or stones in the common duct without any suspicion of the fact on the part of his medical attendant. Jaundice is of course absent in purely mechanical calculous obstruction of the cystic duct. It makes its appearance, as a rule, in from 18 to 36 hours after an attack of biliary colic when a stone obstructs the common bile-duct, but, apart from the ball-valve calculus mentioned above, in a certain proportion of cases in which the calculus appears to be firmly impacted bile is enabled to trickle past it, so that jaundice may be but slight or even absent. In cases of jaundice which have lasted for many days and are the result of obstruction of the common duct a distended palpable bladder indicates that the duct obstruction is due to some other cause than calculus, usually to cancer of the head of the pancreas. When due to calculus impaction the gall-bladder is usually shrunken to the size of a walnut or a filbert and cannot be palpated.

Biliary colic is the most prominent trouble in cases of gall-stones, but most gall-stone subjects never complain of biliary colic, as usually the calculi do not enter the ducts but remain in the gall-bladder. The gall-bladder is a wonderfully distensible organ. It can be made to contain a pint of water, forcibly injected down the cystic duct, without rupture. The muscular tissue of the gall-bladder exhibits a marked tendency to hypertrophy in cases of biliary calculi. The cystic duct has a length of one and a half inches and a diameter of one-tenth of an inch, the corresponding measurements in the case of the common bile-duct being double the length and two and a half times the diameter of the cystic duct. Remember that the common bile-duct opens into the duodenum at the ampulla of Vater by an orifice common to it and the pancreatic duct, and that at this opening there exists a fairly definite sphincter and a marked contraction of the lumen of the duct. Both the cystic and the common bile-ducts resemble the gall-bladder in their capacity of allowing their lumen to be greatly dilated under pressure from within. In biliary colic the gall-bladder, hitherto wonderfully tolerant, for some reason suddenly resents the presence of stones in its interior and contracts upon them with the view to their expulsion, when, provided that the stone or stones be larger than the diameter of the cystic duct, a series of phenomena occur constituting gall-stone colic, the agony of which is in many cases a memory for the rest of the patient's life. As the calculus is forced into the cystic duct this canal resists the distending invader forced into it by the *vis a tergo* of the contracting gall-bladder, aided by contraction of the abdominal muscles. The passage through the cystic duct is rendered the more difficult owing to the presence of the pseudo-valves (folds of Heister) in its interior. As a rule these folds interfere with the passage of a probe down the duct. Once the cystic duct has been traversed the agony becomes less intense owing to the larger size of the common bile-duct, but at the end of this canal there is a still more narrow strait to pass—i.e., the markedly contracted orifice of the duct at the ampulla of Vater. Gall-stone colic frequently occurs in the early hours of the morning—about 2 A.M.—and often after a big dinner. There are few things worse for the possessor of gall-stones than a big city dinner, and I have known a respected citizen of portly dimensions express his bitter regret, during the agony of the gall-stone colic, that he had not been content with sponge cakes and milk and soda, instead of overloading his stomach at a city dinner. The explanation of the hour of onset of the attack is the attempt of the gall-bladder to expel the bile into the intestine at the suitable time—i.e., when the food enters the duodenum. The onset of the attack is so sudden that I have more than once known it to be mistaken for a perforative lesion of a hollow viscus. From the gall-bladder as a centre agonising pains shoot in various directions to the epigastric and the umbilical regions, the right shoulder, and the inferior angle of the scapula. The agony increases with exacerbations, and lasts, as a rule, from five to 18 hours, though I have known it to continue for six days with hardly an intermission. Commonly, the temperature is normal, or subnormal, but at times it is considerably elevated and such a febrile rise is apt to lead to mistakes in diagnosis.

Vomiting is a fairly frequent symptom in all cases of biliary calculi and a usual one in biliary colic in which the contents of the stomach are at first alone ejected. Later the vomit may become bilious. Provided that the cystic duct be alone blocked bile can readily find its way from the liver down the hepatic and common bile-ducts into the duodenum and thence into the stomach. Should, however, the stone block the common bile-duct bilious vomit cannot occur. For the same reason in the former case the fæces contain bile and no jaundice results; in the latter, after a certain period, the fæces are unstained by bile, and jaundice and bile pigment in the urine appear.

Gall-stone colic commonly ceases as rapidly as it commenced, and the patient then experiences the delights of freedom from intense pain. In many cases this cessation of colic means that the stone has reached the intestine, but in others that, finding its passage through the cystic duct impracticable, it has dropped back into the gall-bladder.

During an attack of biliary colic the liver may be noticed to be swollen and the gall-bladder exquisitely tender to the touch. These symptoms slowly subside and then frequently an enormous amount of clear watery urine is passed. It is needless to say that after every attack of biliary colic the fæces should be examined with scrupulous care for the detection of calculi for at least a week after the attack. In intense colic faintness not infrequently overcomes the suffering patient. Rigors with high fever may occur in cases of gall-stones with or without biliary colic and may disappear so soon as the infected bile gains entrance into the intestine. The fever in such cases resembles malaria; it is markedly intermittent, the temperature, which may rise to a great height—e.g., 106° F.—falling to normal, or just above normal, a few hours later. This condition is usually due to a calculus impacted in the common duct, and is of serious account, as it indicates infective inflammation of the biliary ducts. A terrible termination to biliary colic is rupture of the gall-bladder, the cystic, or the common bile-duct with outpouring into the peritoneal cavity of infected bile and resulting septic peritonitis.

Treatment of biliary colic.—Commonly a hypodermic injection of one-third of a grain of morphia is given as the patient demands relief from his agony. Antipyrin in doses of 10 grains every hour until 40 grains have been given is, I am convinced, a useful drug. Hot fomentations over the gall-bladder are soothing. When the pain has been very agonising I have had encouraging results from administering chloroform and massaging the gall-bladder and ducts through the relaxed abdominal walls. This method I commend to you with confidence, but it must only be employed in cases in which all signs of inflammation are absent.

Fatal obstruction of the small intestine by a large biliary calculus I have only once seen. I was called to a moribund

old woman who for seven days had suffered from intestinal obstruction evidently low down in the ileum. As she was dying I left her alone and death took place within an hour of my first seeing her. At the necropsy I found a stone of the size of a florin tightly impacted in the lower end of the ileum six inches above its termination. The patient's daughter assured me that her mother had never suffered from biliary colic, and this was explained by the fact that this was a solitary stone which had ulcerated into the duodenum, leaving an opening between the gall-bladder and this segment of the intestine.

A more frequent result of gall-stones is the presence of dense fibroid adhesions around the pylorus and the commencement of the duodenum, which so narrow these parts as to give rise to gastric dilatation and call for the performance of gastro-enterostomy. I have several times found gall-bladder, liver, duodenum, and pylorus imbedded in adhesions (in one case so dense as to simulate a neoplasm when examined through the abdominal wall), and have been enabled to give relief to the gastric symptoms by the performance of gastro-enterostomy.

Permanent Obstruction of the Biliary Ducts.

We have hitherto considered cases in which the gall-stone obstruction in either duct was only temporary. We now turn to such in which the calculus remains permanently impacted. When this happens in the cystic duct the bile no longer enters the gall-bladder, which may undergo various changes. It may dwindle to a shrivelled sac with thickened walls which may, in part, calcify; it may become distended with clear, ropy fluid derived from the mucosa until it attains so vast dimensions that it may be mistaken for an ovarian cyst or a hydronephrosis, or the fluid in the gall-bladder may become pus, and lead to perforation of the viscus and peritonitis. Much more serious is the case when the common bile-duct is permanently and totally obstructed by a calculus, for in such the bile is prevented gaining access to the intestine and jaundice results. This, however, not invariably occurs, for I have operated upon several cases in which the common bile-duct was, to all appearance, blocked by calculi varying in number from one to nine, and yet bile was able to find its way adequately into the intestine. It is noteworthy that in some instances the common duct is obstructed by calculi so completely as to cause jaundice, and yet the closest examination of the patient reveals no history of gall-stone colic. Complete blockage of the common duct may cause no symptom beyond jaundice with clay stools and slight hepatic enlargement. In other cases sooner or later ensue the results of infection—viz., suppuration of the biliary passages and gall-bladder, cirrhosis (biliary) of the liver, suppuration of the intrahepatic ducts, or of the liver substance.

Allow me now to direct your attention to infection of the biliary ducts and its results. Normally the entire biliary apparatus is sterile. I have (in *Virchow's Archiv*, 119. Band, 1890) shown that in animals the introduction of bile into the peritoneal cavity does not cause a fatal peritonitis, and that the bile is really free from micro-organisms. The bile, however, though sterile, has no antiseptic qualities, but is a suitable medium in which microbes may grow and flourish. Hence it follows that the entrance of pathogenic bacteria into the biliary passages is fraught with utmost danger. The ampulla of Vater is normally swarming with microbes which may be found at least half an inch up the duct. These are in health washed out by the flow of bile, but the arrest of this secretion enables them to ascend the duct and thus to produce their baleful action. I am convinced that in such cases ascending infection is the rule, though I do not deny the possibility of infection by the blood stream.

Experimental ligation of the common duct may produce ascending infection of the biliary passages, especially if it be performed in the last inch of the duct. Here injury to the duct wall acts as a *locus resistentiæ minoris*. Ascending infection of the biliary passages is usually ushered in by rise of temperature, 101° to 105° F., with rigors and profuse sweats. The fever is markedly intermittent and frequently simulates malaria. Between the exacerbations the temperature may fall to the normal or remain somewhat elevated. In other cases, which are of serious omen, the temperature remains the whole time at or near its maximum, this being an indication that the infection has reached and seriously attacked the liver in addition to the extrahepatic biliary passages.

Angiocholitis.—In this condition the intrahepatic biliary ducts are involved in the infective process. On post-mortem examination the liver is found to be swollen, pulpy, and infiltrated with pus. Some of the pus lies in the dilated intrahepatic biliary ducts, some in real abscesses which have their origin in the periductal connective tissues.

Gall-stone cholecystitis is the result of ascending biliary duct infection attacking a gall-bladder containing calculi. Should the infection occur in a gall-bladder only recently occupied by gall-stones, the gall-bladder will form a definite swelling. If, however, it occur in a gall-bladder long the container of gall-stones and the subject of previous inflammation, the sac, now contracted and shrunken, will not be able to assume tumour dimensions. The fluid in the gall-bladder may be sero-purulent, purulent, or hæmorrhagic, and in cases of some standing the viscus itself is adherent to neighbouring viscera (the duodenum, the transverse colon, the pylorus). These adhesions are not infrequently dense and fibroid in character.

Regarding the question of diagnosis, let me draw attention to the value of radiography. In many cases my colleague, Dr. W. Ironside Bruce, has given me assistance of very real value and has confidently and correctly diagnosed the gall-stones present. In other cases he has reported that the evidence was inconclusive. Such have commonly been in fat patients, in some of whom I have found, in others failed to find, gall-stones. I think it only due to my colleague to say that in no case in which he has stated that calculi were present have I failed to find them. I conclude, therefore, that in skilled hands such as his a positive diagnosis has a positive value. In some cases of calculous cholecystitis there will be found just outside the margin of the right rectus abdominalis, at its junction with the costal margin, a swelling and in all a point of tenderness on deep pressure.

The treatment of calculous cholecystitis is purely surgical, and it may be laid down that no delay, once the diagnosis has been established, is permissible. My preference in nearly all such cases is for cholecystotomy with drainage of the gall-bladder, an operation that, except in gangrene of the gall-bladder, has afforded me results that leave little to be desired. Cholecystectomy, or extirpation of the gall-bladder, has always appeared to me to be a more serious operation and to lack the virtue of drainage of the biliary passages which cholecystotomy affords. I reserve it solely for those cases in which I fear that the gall-bladder wall is seriously compromised in whole or part. Cholecyst-duodenostomy—i.e., making an opening between the gall-bladder and the intestine (duodenum) or transverse colon (cholecyst-colostomy)—should, I consider, be rarely performed and should be reserved for those rare cases in which the common bile-duct obstruction cannot be relieved. I have in two such cases performed cholecyst-duodenostomy.

Of *suppurative pylephlebitis* I have personal experience of one case only, and can therefore give you no information of any value concerning this condition.

Gall-stone peritonitis is a condition which I have not infrequently met with. Many cases are fortunately localised by adhesions and thus form encysted abscesses. Frequently the origin of the abscess is not diagnosed. I have twice last year opened a subhepatic abscess without obtaining any history of biliary colic. In one case seven gall-stones were immediately passed by the incision and rapid healing resulted. In the other a biliary fistula resulted which persisted for five months. A large gall-stone was then felt with a probe at the bottom of the sinus. The sinus having been dilated, a large single stone was extracted with forceps and six weeks later the sinus closed.

Far more serious are the cases of acute generalised peritonitis in which infected bile is poured out into the peritoneal cavity owing to sloughing of the wall of the gall-bladder or of one of the biliary ducts. In my experience this is a very fatal complication. Of the five cases that have come under my care, three occurred during an attack of biliary colic, and I confess that in two I did not immediately recognise, amid the agonising pain of biliary colic, that perforation had occurred. In the remaining cases perforation of the gall-bladder took place without any history of biliary colic, and the diagnosis of perforative peritonitis was easily made, though I attributed it to a duodenal or gastric ulcer in both. One recovery out of five cases is my melancholy experience of this grave condition. Of biliary fistulæ the result of gall-stones I have seen but few which

discharged bile externally, and rarely has the discharge been at all copious. Internal fistulæ—i.e., of the gall-bladder with the duodenum the more common form, or with the transverse colon—are not uncommon. In no case did an internal fistula cause apparent damage to the patient and in the majority the diagnosis was only made at the necropsy, the patient having died from some other malady.

Let me now briefly refer to those far from infrequent cases of relapsing cholecystitis of microbic origin which so closely simulate gall-stone cholecystitis but in which no gall-stones are found on incising the gall-bladder. I do so for this reason, that their treatment by cholecystotomy and drainage is almost as satisfactory as is that of those cases in which gall-stones are found. I will content myself with the history of a single case. My old friend and fellow student Dr. G—— was obliged to relinquish practice owing to repeated attacks of abdominal pain and ill-health. I saw him in consultation with Dr. W. Aldren Turner. It was clear that he was suffering from chronic appendicitis. I removed the appendix vermiformis, which was obviously diseased, and thought that all would now be well with my friend. Some months later he consulted me again and told me that though he felt much better he was not yet well. He was now certain that his abdominal attacks were of two kinds: one the symptoms of which were due to appendicitis which had disappeared since the offending organ was removed; the other, of less severe nature, still persisted and frequently recurred. Dr. Turner and I diagnosed infective cholecystitis and I drained the gall-bladder, which contained no calculi, with the happiest results. My old friend, who for two or three years had been unfit for work, is now, I am glad to report, in excellent health, and doing useful service as medical officer of health to a large district. This combination of cholecystitis and appendicitis is by no means unusual. I have frequently met with it.

Time will not permit me to enter into the interesting question of the relation of gall-stones to pancreatic disease. I may, however, remark that a stone impacted at the ampulla of Vater is a serious menace to the pancreas. The pancreatic secretion may be dammed back into the gland, ascending inflammation of microbic origin of the pancreatic ducts may occur, or bile may find its way into the duct of the viscus with grave results. It is well known that the most efficient treatment for chronic pancreatitis consists in drainage of the biliary ducts by way of the gall-bladder.

PROGNOSIS.

I would insist that prognosis in cases of gall-stones is most uncertain. No one can foretell the outcome of the condition. I have learned never to prophesy. Some of the cases in which the symptoms have been trifling have terminated in death. Some of the most threatening and ominous have made apparent recoveries without operation. Two cases in which attacks of biliary colic and cholecystitis had recurred over and over again for several years with marked jaundice, rigors, and high fever, and in which I gave a grave prognosis, owing to operative treatment having been refused, made ultimate recoveries after the passage of gall-stones per anum, one when the patient appeared to be almost *in extremis*. In one, however, grave loss of vision occurred owing to retinal hæmorrhages.

The most frequent causes of death are: (1) microbic cholangitis; (2) perforation of the gall-bladder and ducts; and (3) carcinoma of the gall-bladder. I have met with carcinoma of the gall-bladder in a definite proportion of cases of cholelithiasis and have never seen it as a primary growth apart from gall-stones. I am convinced that their irritation is the usual cause of carcinoma of the gall-bladder. I think I may fairly claim that every death from gall-stones is a preventable one, that early operations are very safe, that they avoid many and grave complications, and that drainage of the gall-bladder is practically never followed by the re-formation of calculi. Were the question put to me, "In what cases would you advise operation for the removal of biliary calculi?" I confess I would wish to answer, "In all." This, which I am convinced will be the treatment of the future, would probably induce the majority of my hearers to label me an extremist. Let my reply be: Let me ask you to tell me something about your patient? If he will assist you in your endeavour to keep him out of the hands of the surgeon, will adhere to simple living, avoiding alcohol and rich foods, will drink a tumbler of hot water with preferably a little alkali in it thrice daily, and take a daily dose of Carlsbad salts to insure free movement of the bowels and relieve any gastro-duodenal catarrh, then let him, if he wish, postpone the operation, for such treatment tends in many careful patients to induce a condition of absence of symptoms, commonly mistaken by the patient for a cure. But even such an ideal patient would be safer with operative treatment.

Should, on the other hand, your patient be one of those who live to eat, and is intolerant of restraint, who will not carry out instructions but persists in over-loading his stomach with rich food and alcohol, far exceeding what is required by a middle-aged man, then surely disaster awaits him if he insist on retaining his gall-stones; and if, in the absence of any contra-indication, his medical attendant aids and abets him in his refusal of surgical relief he cannot absolve himself from blame should some grave complication endanger his patient's life.

In conclusion, I would insist that as soon as the medical attendant makes up his mind that operative treatment is indicated the less the delay the better for the patient. The operative treatment of gall-stones in the early stages of the disease is one of the safest and most beneficent of all surgical procedures. I am convinced that an early cholecystotomy is far less dangerous to the patient than the passage of a single stone *per vias naturales*. I know no operation more easy or more entirely satisfactory than an early cholecystotomy. I know few more difficult than choledochotomy or extraction of a stone from the common bile-duct in a long-standing case. In the latter, even if the stone be removed the dangers are by no means overcome, as infection of the biliary passages may persist or adhesions may cause trouble in adjacent organs, especially the stomach. My advice to you, therefore, must be that as soon as you have, with some assurance, diagnosed the presence of biliary calculi, and especially if you can satisfy yourselves that they have produced definite symptoms and are threatening to give rise to some complication, the earlier they are extracted from the gall-bladder the better for your patient's safety and for your peace of mind.

URACHAL CYST SIMULATING APPENDICULAR ABSCESS; ARRESTED DEVELOPMENT OF GENITAL TRACT:

WITH NOTES ON RECENTLY REPORTED CASES OF URACHAL CYSTS.*

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OVER ten years ago I read before a meeting of the Royal Medical and Chirurgical Society a communication entitled "A Case of Cyst of the Urachus, with Notes on Urachal and so-called 'Allantoic Cysts.'"[1] Several years passed by, but I came across no further examples of urachal cyst in my own practice until last summer, when I revealed by operation a remarkable and, I must add, undiagnosed example of this form of tumour. It simulated appendicular abscess and was associated with arrested development of the upper part of the genital tract. I will relate this case and then dwell upon others recently reported by Mériel, Weiser, Binnie, Delore and Cotte, E. D. Ferguson, &c., adding an unpublished report of a cystic sarcoma of the urachus in the practice of my friend Mr. F. S. Eve. I shall discuss almost exclusively pure urachal cysts as distinguished not only from tumours which are not urachal, but also from cystic urachal fistula, which, like other forms of urachal fistula, is clinically and surgically quite different from urachal cyst. The consideration of the pure cyst, in itself somewhat complicated, is quite sufficient for a single paper. I will endeavour to explain how much has been added to our knowledge of these cysts since I reported my first case in 1898.

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* A paper read at a meeting of the Surgical Section of the Royal Society of Medicine on March 9th, 1909.

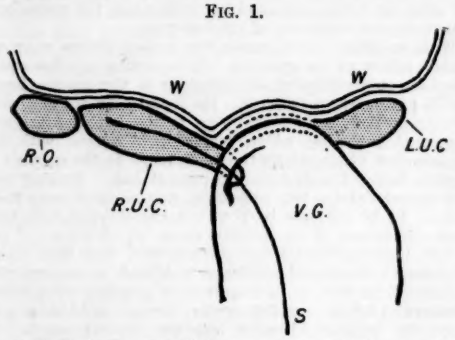
[1] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxi., 1898, p. 301.

Urachal Cyst Simulating Appendicular Abscess; Arrested Development of the Upper Part of the Genital Tract.

The patient, aged 17½ years, unmarried, applied to Dr. R. Drummond Maxwell at the out-patient department of the Samaritan Free Hospital on July 16th, 1908. She complained of tenderness and swelling in the right iliac fossa, associated with a history of a sudden attack of pain in that region a month previously, and she was admitted into my wards at once. After admission I found that the relations of the swelling to adjacent organs could not well be defined until I examined the patient with the aid of anæsthetics under circumstances presently to be explained. The patient's mother informed me that the catamenia were established at the age of 14 years without pain or constitutional disturbance. The periods were always scanty and attended with very little pain, and the interval was about five weeks. The patient had never suffered from any neurosis before, at, or after puberty. On June 16th, one calendar month before admission, the menstrual flow appeared as usual, but was accompanied by violent pain never experienced before. The pain continued for two days and then it abated. The patient at once resumed her work, but the pain returned two days later and obliged her to take to her bed again. During the whole of the week before admission she was quite incapable of attending to her duties. Roughly speaking, as regards what could be made out before anæsthesia was employed, there was a fairly well defined, almost spherical, swelling in the right iliac fossa, slightly moveable and tender to touch. There was resonance on percussion over its outer aspect. The lower part of the swelling could be defined on rectal examination. I refrained from making a vaginal exploration until a consultation was held. Then it was found that the vagina was barely two inches deep. A kind of dimple could be defined at the blind extremity towards the right. The tumour did not bulge into the vagina. At the lower limits of the swelling was a tuberosity which lay behind the vagina and in front of the rectum. The temperature and pulse were low. The patient had never been laid up with any severe illness. Before the arrested development of the vagina had been detected appendicular abscess was suspected, but after the examination hæmatometra or hæmatosalpinx seemed equally probable. On July 21st the period began, as usual, about five weeks after that which preceded it. I found that there was no palpable increase of pain or tenderness in the tumour nor any appreciable increase or decrease in size. The show was unusually free. I decided to examine the patient under anæsthesia during the period in order to discover the channel which transmitted the menstrual blood into the vagina, and for other manifest reasons.

Examination under anæsthesia.—The patient was a fairly healthy but slightly anæmic blonde. Her manner and appearance were perfectly feminine. Though hardly over

FIG. 1.



W, Wall of cyst. R.O., Right ovary. L.U.C., Left cornu of uterus. R.U.C., Right cornu of uterus. V.G., Vagina. S, Sound.

5 feet in height she was well proportioned, broader at the hips than at the shoulders, and free from hair on the face. The breasts were well-developed; there was no areola round the nipples. The axillary and pubic hair corresponded to the patient's age. The inguinal canals contained no tender body. The perineum was markedly deep, so that the anterior commissure lay far forward. The labia, clitoris, and meatus urinarius were normally developed. There appeared, on the other hand, to be no hymen nor was there the least trace of caruncule. The vagina formed a blind pouch about two inches deep; the rugæ were prominent. The vaginal pouch was distinctly deeper on the right side, whence dark menstrual blood was seen to issue. On stretching the adjacent mucosa with the fingers a crescentic fold with the concavity towards the left was detected. It covered the aperture whence proceeded the blood. A uterine sound could be passed into this aperture and pushed onwards for three inches upwards, backwards, and a little to the right, closely following the outer limits of the lower pole of the swelling, as could easily be defined on digital exploration from the rectum. (Fig. 1.) On bimanual palpation the swelling was found to be a well-circumscribed tumour, firm, oval, and as tense as a recent hæmatocele. It could be pushed a little downwards, yet even then its lower pole did not bulge into the vagina, but passed behind it. The tuberosity in the recto-vaginal septum discovered at the previous examination lay to the left of the menstruating tract. It felt like a small cervix. The nature of the case remained obscure. I kept the patient at rest for a week. The period ceased and the tumour remained stationary. There was one sharp attack of local pain on July 28th without any rise of pulse or temperature.

Operation.—On July 29th I operated, with the assistance of Dr. R. V. G. Monckton, Dr. S. H. Belfrage administering ether and chloroform. I made an incision in the middle line. The parietes were unusually vascular. After separating the recti I came across a thick membrane of doubtful character and lower down I exposed the wall of the bladder which extended for quite two inches above the pubes. The membrane was cut through and about half a pint of a perfectly clear fluid was removed; unfortunately, none was preserved. The fluid lay in a cyst behind the recti and anterior to the parietal peritoneum; the membrane through which I had made the incision being the anterior portion of the cyst wall. The cyst was connected with the bladder by a thick cord half an inch in length. The upper limits of the cyst lay close below the umbilicus. In exploring the upper end of the tumour I laid open the peritoneal cavity. The omentum adhered to the peritoneum investing the back of the cyst in this region. The intestines seemed healthy; there was no evidence of tuberculous disease, no free fluid, and no intraperitoneal tumour. Lower down some coils of ileum adhered to the parietal peritoneum behind the tumour. I endeavoured to define the relations of the cyst to the genito-urinary tract. A catheter was passed into the bladder and a few ounces of urine were drawn off. There was no communication between the cavity of the bladder and the cavity of the cyst; the thick cord between the two was clearly a portion of the urachus and I observed that it ran into and not over the cyst wall.

As might have been suspected from what could be defined before the operation, the cyst lay to the right of the middle line. On pressing against its wall on the right inferiorly, from the inner side, I detected a fusiform body, like a uterine cornu or a small but entire virgin uterus, lying in the position of the menstruating tract along which a sound had been passed a week before. Above this body thickened tissue could be felt, apparently a small ovary. The tuberous cervix-like body already mentioned could be plainly defined through the walls of the lowest part of the cyst. When thus explored it was found to be a distinct, fairly moveable structure, the left ovary or uterine cornu. On further palpation through the cyst wall the pelvic cavity felt quite free from any tumour or deposit. There certainly was no such thing as a collection of retained menstrual blood.

At this stage of the operation it became evident that the swelling, which disappeared entirely when I opened the cavity full of fluid, was a urachal cyst. That swelling—in other words, the cyst—had been the cause of all the patient's recent trouble. As there was no trace of a hæmatometra or hæmatosalpinx I did not feel justified in dissecting in the dark behind the cyst, amidst deformed structures in very uncertain relations to ureters, blood-vessels, &c., merely to make out the extent of arrested development of the uterus and appendages. It was with the cyst, therefore, alone that I had to deal. I knew of several objections to the draining of a urachal cyst, nor could I dissect away its outer wall, since, as I have just observed, its positive relations to malformed structures were very uncertain. For

these reasons I simply trimmed away as much of the lining membrane as could be safely removed. Then I cautiously passed several fine catgut sutures along the substance of the outer wall and tied them, so that the cyst cavity was closed in. This outer wall was the muscular sheath of the urachus abnormally thickened, so that the manœuvre just described was easy and nothing was caught up behind the cyst. I transfixed the segment of the urachus which ran between the lower limits of the cyst and the bladder with a fine linen suture and tied it on both sides. It was then divided between the cyst and the ligature. As will be explained presently, it is fortunate that I transfixed the urachus instead of tying a single ligature round it as though it were an artery. I kept the portion attached to the cyst for microscopic examination. Lastly, the sheaths of the recti were united with interrupted fine linen sutures and the integuments closed with interrupted silkworm gut.

After-history.—During convalescence there was no difficulty in micturition, which was voluntary from the first, and no urine leaked through the wound. By August 7th all the silkworm-gut sutures were removed; the wound was by then well healed. There was at that date no trace of any swelling in the right iliac region or pelvis. The firm moveable body which lay until the operation below the lowest part of the cyst was found, on bimanual palpation, to be connected with the fusiform body to the right of the middle line.

During the summer vacation Dr. Maxwell took charge of the patient in my absence. He reported that up to the day of her discharge at the end of August there was no sign of leakage of urine through the wound nor any show of blood.

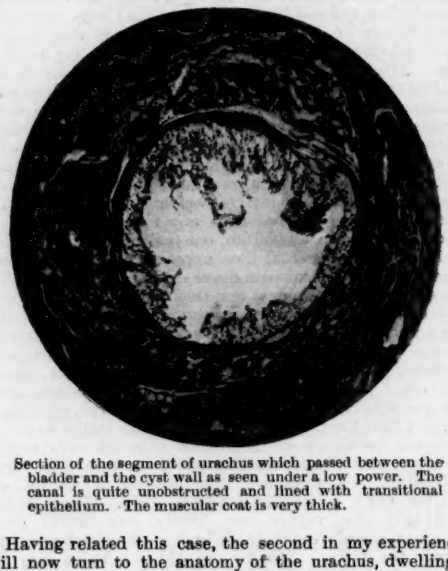
On Sept. 12th the patient came to see me at the hospital. Her general condition was good. A slight show of blood had been noted on the previous day, the first indication of a period since the operation. The abdomen was flat and free from tenderness. The cicatrix had completely healed. No trace of any abdominal tumour remained, the right iliac fossa was free; there was no resistant area or gurgling on pressure within its limits. No solid or cystic tumour nor any ill-circumscribed resistant body could be defined in the pelvic cavity. The fusiform body which transmitted menstrual blood and the firm moveable body on its left were now definable as one tough, smooth, irregular structure which could be pushed up to the level of the pelvic brim, slipping down immediately the examining finger was withdrawn. The mobility of this structure was very marked, the segment towards the left was not in the least tender, which would imply that it was the left cornu and not the corresponding ovary. Thus the urachal tumour had disappeared and no hæmatometra had formed, whilst the uterus was reduced to a right cornu which communicated with the vagina yet had no cervix, and most probably a left cornu connected with the right by a membranous band.

By the middle of October the patient was in very good health; she had been able to work for nearly four weeks, and a month later she reported herself as quite able to continue at her duties without feeling pain or fatigue.

I saw the patient once more on Dec. 15th. She was quite strong and able to work. The last period began on Nov. 26th and was moderate. The pelvic condition remained unchanged. Close above the fusiform body I could define the thickened tissue which I detected at the operation. It was slightly tender on firm bimanual pressure. There could be little doubt that it was the right ovary.

Microscopical appearances of the cord between the cyst and the bladder.—A section of the cord-like structure which ran on the surface of the parietal peritoneum between the fundus of the bladder and the cyst was made at the Royal College of Surgeons of England. There could be no doubt that it was a portion of the urachus. Mr. S. G. Shattock reported that the canal was quite patulous and lined with perfect transitional epithelium of the bladder type. The lumen was free from catarrhal or other morbid products. The muscular coat was abnormally thick but showed no evidence of inflammation or œdema. Its inner portion was mostly made up of circular and its outer portion of longitudinal fibres, but there was some irregularity in the direction of the fibres in both portions. Some subperitoneal fat was intimately connected with the periphery of the urachus. The appended reproduction of a photo-micrograph (Fig. 2) shows the above-described appearances of the urachus as seen under the microscope. The urachal canal, according to Wutz, is well developed in young subjects. In this instance it must have been closed at the bladder end, or if not there must have been an efficient Wutz's valve, as the contents of the cyst showed no evidence of being fouled by urine.

FIG. 2.



Section of the segment of urachus which passed between the bladder and the cyst wall as seen under a low power. The canal is quite unobstructed and lined with transitional epithelium. The muscular coat is very thick.

Having related this case, the second in my experience, I will now turn to the anatomy of the urachus, dwelling on certain peculiarities of importance in respect to the surgery of urachal cysts.

THE URACHUS.

The surgical anatomy of the urachus deserves more attention than it has hitherto received in this country. There is no necessity for us to slight the embryologists, indeed we can take on trust what A. Keith, Ballantyne, Bryce, Cunéo and Viau, and other authorities teach us, being fairly convinced that the urachus is developed from the allantois. There is likewise no need for us to disparage the labours of Bland-Sutton, Byron Robinson, Freer, and others who have demonstrated the pathology and surgery of urachal cysts and urachal fistulæ under their own observation. Let us rather turn our attention to a matter intermediate between embryology and pathology, in other words, let us study the anatomy of the urachus as revealed by special investigation of human subjects other than patients suffering from distinct disease of that interesting embryonic relic. Then, perhaps, we shall be better qualified to understand the pathology, diagnosis, and treatment of urachal cysts.

Wutz, so often quoted, stands first among writers whom we should follow as an example. In reporting my first case I noted his observations on the histology of the urachus based on 74 post-mortem subjects. He found that the epithelial tubular portion grows steadily up to the twenty-fifth year, the canal becoming wider, which is in accord with the appearances displayed by the microscope in the segment of urachus below the cyst in the present case. Passing over histological details, two important statements deserve to be noted. In 24 subjects in Wutz's series there were distinct cystic dilatations of the urachal canal, which contained pus in two instances where the patients had died from septic affections. Of equal importance is Wutz's statement that the vesical orifice of the urachus is guarded by a transverse valvular fold which under normal conditions prevents the passage of urine into the urachal canal. In 1898 I expressed my hopes that these researches would be followed up in this country, but up to the present Wutz has found but few imitators. We want to know more about the valve, for instance. Is it constant? The best recent work after the Wutzian method, as I may call it, has been undertaken by Binnie and Clendenning in America. I will quote in full their summary: "Mr. Clendenning recently examined for me 16 adult cadavers and 7 fœtuses, with the following results:—1. In 7 adults and 6 fœtuses the bladder showed a distinct diverticulum from 1 to 2 cm. deep

at the fundus where the urachus is attached. 2. In 1 adult there was a slight projection instead of a diverticulum. 3. In 8 adults and 1 fœtus the dome of the bladder was smooth. 4. In none of the cases were there found lacunæ lined with epithelium in the urachus. 5. The average adult urachus was 12 cm. long by 1·5 cm. [*sic.* ? 0·15 cm.] wide. 6. The urachus was usually adherent to the belly-wall, but in one case (diabetic with frequent retention of urine) it was not close to the parietes but lay between loops of small intestine. 7. In all the cases the urachus was well supplied with vessels." Binnie adds: "Early in their development the urinary bladder and the urachus are completely surrounded by peritoneum except on their ventral surface where a meson (meso-cyst [2]) exists. This disposition usually disappears and the urachus becomes extra-peritoneal. That the meso-cyst sometimes persists was well exemplified in an adult cadaver examined for me in which the urachus did not lie close to the abdominal wall but lay between loops of small intestine. The persistence of the meson explains the occurrence of some otherwise puzzling intra-abdominal cysts." This case was the clinical evidence on which Clause 6 in the above summary was based.

The meso-urachus question is of high importance in respect to urachal cysts, especially those which have attained a large bulk. Delore and Cotte's researches were published almost simultaneously with the monograph prepared by the two American writers and, as will presently be related, they claim to have detected and removed a true urachal cyst that was intraperitoneal.

The French authorities quote Cunéo and Viau, who have found that in a section of an embryo 45 millimetres in length the intra-abdominal portion of the allantois and the umbilical arteries are for the greater part completely invested by peritoneum. This disposition persists when the allantois has begun to differentiate itself into urachus above and bladder below. It is, however, transitory, and the urachus becomes, as a rule, extraperitoneal in its entire length.

Professor A. Keith, conservator of the Museum of the Royal College of Surgeons of England, informs me that he has on several occasions detected a very considerable mesentery enfolding the urachus in adult subjects. He adds that under these circumstances the obliterated hypogastric arteries have even deeper and better marked mesenteries. Professor G. D. Thane has likewise observed this condition in several adult subjects. In these particular cases there was no evidence, I presume, that the mesentery was acquired, but Professor Keith tells me that he has never chanced to come across a meso-urachus in the new-born infant. Pathological evidence, as I will explain presently, does not lead us to believe that the urachus can acquire a mesentery after fœtal life. Mr. C. B. Lockwood reminds me that different observers are not agreed as to where a "fold" ends and a "mesentery" begins, but admits that the urachus may be invested in a fold of parietal peritoneum.

Thus, on the testimony and experience of independent embryologists, anatomists, and surgeons, we learn that the urachus may possess a mesentery or at least a fold of peritoneum, representing most probably the persistence of an embryonic condition. Still, we wish to know more about this matter and about Wutz's valve, so important in respect to the question of the precise relation of a urachal cyst to a cystic fistula connected with the bladder. Therefore, it were well if some British teacher of anatomy or pathology would follow the good example of Wutz and of Binnie and Clendenning. A series of several hundred subjects investigated after Wutz's method could hardly fail to furnish fresh evidence of high value.

The Urachus and Diverticula of the Fundus of the Bladder.

Although, for reasons given in the introductory remarks at the beginning of this communication, urachal fistula must be dismissed, I may be allowed to say a few words on abnormal prolongations of the urinary bladder upwards. Garrigues discovered, in a single woman, aged 45 years, who died after hysterectomy for fibroid, a bladder prolonged nearly to the umbilicus to which it was connected by a very short urachal tube. Balfour Marshall reports a case where a patent urachus over an inch in diameter formed a tubular prolongation of the bladder and was wounded when an abdominal incision was made for ventrofixation of the uterus, though without bad consequences. I turned attention to these diverticula in 1898,[3] and have noted Binnie and Clendenning's researches above. The surgeon will hardly trouble to distinguish a diverticulum of the bladder from a patent urachus, even if there be any distinction. What concerns him is the fact that such a structure may be wounded during an abdominal section.

Tait's Pseudo-allantoic Cysts.

In 1898 I showed how the long series of cases reported by Lawson Tait had been misinterpreted by that great surgeon when he ranked them as urachal cysts, excepting one published by himself and Teichelmann in THE LANCET twenty years ago.[4] Several writers, who have apparently never read my criticisms, have recently expressed precisely the same views. Mériel, Binnie, and Delore and Cotte all maintain, as I did, that Tait's series were instances of encysted peritonitis, probably tuberculous, where, as I pointed out, communication between the bladder and peritoneal cavity is not infrequent. I may add that Mr. Tait himself, in a letter about my monograph in 1898, informed me that he had detected mature hair follicles in sections of the cyst wall in one case. This would imply that the cyst was a universally adherent ovarian dermoid, or a dermoid tumour derived from some other organ, but urachal it could hardly be. There were no after-histories to these cases and no verification of the relations of the cysts at necropsies. Hoffmann's case, where the cyst contained 50 litres of fluid when opened at the necropsy, was shown by Wutz to be an example of chronic hæmorrhagic peritonitis. The original report was so defective that an absurd error about the sex of the patient was included. Yet Delore and Cotte agree with Hoffmann, though rejecting Tait, and in articles on urachal cysts by living writers Tait's series and Hoffmann's equally spurious case are persistently included, as though they really represented urachal disease. The error seems, like King Charles the Second, a most unconscionable time dying. Let them be henceforth relegated to the archives of chronic peritonitis—in other words, to their proper place.

Cases of Cysts of the Urachus Recently Reported.

Two years ago W. R. Weiser published tables of nearly 90 reported cases of cysts of the urachus. These tables are indispensable for the study of their subject, but they show, as their author admits, that we cannot as yet draw from the literature of urachal cysts any sound conclusions such as may be inferred from published series of the ligature of big arteries for aneurysm, or Wertheim's operation, where at least there was always the aneurysm or the cancerous uterus to begin with. Weiser includes Tait's and Hoffmann's spurious cases and a considerable number of examples of cystic fistula, two being in his own practice.

Weiser's second case seems an authentic instance of a pure urachal cyst. It bore some relation to my own as it occurred in a young subject (a girl, aged 11 years). It gave rise to an acute attack of abdominal pain, headache, vomiting, and fever, and was markedly unsymmetrical. There was impaired resonance between the umbilicus and pubes from the left loin to about two inches to the right of the median line. When the abdominal incision was made the parietal peritoneum was found investing the posterior aspect of a large cyst which was connected inferiorly with a duct running into the bladder and patulous, let it be noted, to within three-eighths of an inch of the vesical cavity. The cyst almost filled the left side of the abdomen below the level of the unbilicus; it contained pus and had ruptured at one point into the peritoneal cavity. As much of the sac as could be dissected out without tearing through the parietal peritoneum was taken away, the cavity left behind was washed out and drained with iodoform gauze, and the patient recovered. Let it be noted that before the operation tuberculous peritonitis was suspected.

Whilst Weiser's own case is well reported, as I have stated above, no safe inferences can be drawn from his tables, so judiciously prepared that among other things the defective character of many of the reports by other writers is to be seen at a glance.[5] Let us trust that the next writer who

[2] This expression, meaning, of course, mesentery of the bladder, is best discarded, lest it should be taken to signify the mesentery of a urachal cyst.

[3] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxi., 1898, p. 307.

[4] Congenital Cyst of the Urachus; Abdominal Section; Recovery; THE LANCET, Oct. 6th, 1888, p. 675.

[5] Weiser has overlooked a case of cystic fistula reported by Unterberger. A woman had a bad fall during the first month of pregnancy. Acute backward displacement of the uterus occurred, the

takes the trouble to tabulate all recorded cases of urachal dilatation will carefully group under separate headings: (1) fistulæ; (2) primary cystic fistulæ communicating from the first with the bladder or opening at the umbilicus; (3) pure urachal cysts (the subject of this communication); and (4) secondary cystic fistulæ, developed from pure cysts which have acquired communications with the bladder or umbilicus. Surgically and clinically the fourth as well as the second must be carefully distinguished from the third, hence I will pass over all statistics and will now proceed to the consideration of cases of pure urachal cyst published during the last ten years, but not included in Weiser's tables. That writer, I must add, omitted Bryant's two cases which were appended to my monograph in 1898. The first was a pure cyst in a woman, and simulated an ovarian tumour, the second was a cystic fistula, primary or secondary, in a male patient.

The recent cases which I will now dwell on were under the observation of surgeons who, like myself, have enjoyed the advantage of studying the experience of others, and were thus the better able to avoid the fallacies which beset the original observer. It happens that these recent cases form a group fairly typical of every variety of pure urachal cyst, sessile on the bladder or separate, extraperitoneal or provided with a mesentery, incipient, moderately developed, or large—a most instructive series, in fact. We need not dwell on cystic dilatations detected in fœtal bodies, but as surgeons we must not disregard certain records of the accidental detection of small urachal cysts in the course of operations.

Small Cysts Detected at Operations.

Morestin, a few years ago, operated upon a woman, aged 24 years, removing a suppurating Fallopian tube. When making the abdominal incision he brought to light two cysts too small to be detected by palpation. One lay above the other in juxtaposition but independent, and they occupied the middle line behind the recti and in front of the peritoneum. The urachus could be seen running from the fundus of the bladder into the lower cyst and from the upper cyst to the umbilicus. The cysts did not adhere to the peritoneum behind them. They were tense, smooth, globular, and transparent. One was opened and found to contain a limpid, colourless fluid. The outer wall consisted of connective tissue, the inner was lined with pavement epithelium. Let it be noted that there was no trace of a meso-urachus, nor in either of the cysts which I have described, which were both of moderate size, was the tumour invested with peritoneum except posteriorly. This fact would lead us to believe, as was mentioned above, that a urachal cyst does not make for itself a mesentery as it develops. When a urachal cyst is intraperitoneal the urachus most probably had a mesentery before the cyst existed.

Again, we see that Morestin operated for pyosalpinx, a suppurative condition which was localised. When that condition is more diffused an incipient urachal cyst may be involved, as in two instances recorded by Wutz, to which I have already referred. Hence, it is always possible that an abscess in the middle line below the umbilicus may have developed in the urachus. Lastly, Morestin's cysts probably represented an incipient bilocular urachal cyst, like that which I described in 1898.

Mériel of Toulouse laid open a cyst of the urachus when performing a cystotomy for retention of urine. Its walls were thin, but distinctly thicker towards the bladder,[6] into the fundus of which it was inserted. The cyst had three walls, the outer of connective and fibrous tissue, the middle muscular, and the inner thin and smooth.

Lastly, the experience of Opitz is interesting to all who undertake abdominal sections. When performing what he calls a *velaparotomie*, in other words, when repairing an incisional hernia, he exposed a small cystic body which at first sight appeared to be a displaced and adherent vermiform appendix. On closer examination there could be little doubt that it was a urachal cyst. If so, it would seem that a segment of the urachus where the canal happened to be unobliterated was involved in cicatricial tissue at its upper and lower limits, the canal subsequently undergoing dilatation owing to a collection of fluid and broken-down epithelium in its lumen. The main interest of this case is, however, as in Balfour Marshall's experience already mentioned, the manner in which the vagaries of the urachus and fundus of the bladder may puzzle the operator. Whilst the little cyst in this instance simulated a vermiform appendix, the big cyst in my own case gave rise to symptoms indicating appendicular abscess.

Cystic Tumours Removed by Operation.

In 1899 E. D. Ferguson operated on a man, 47 years of age; his original report is very carefully written. The tumour rose to two inches above the umbilicus and extended laterally to the iliac spines. Its surface was flat, resistant on pressure, and felt as though in the abdominal wall, yet malignant disease of the omentum was suspected. The chief symptoms were hypogastric pain and frequent desire to pass urine. It proved to be a cystic tumour containing over two quarts of a watery fluid, which unfortunately was not examined; it was intimately connected with the wall of the bladder and extended deeply into the pelvis, where the peritoneum lay behind it. Ferguson dissected away the whole lining membrane of the cyst, excepting at the umbilicus, where he found digital processes penetrating the tissues of the abdominal wall. "That portion of the posterior part of the cyst which could be placed in a fold and allow easy approximation of the peritoneum was stitched together and excised." The upper part of the abdominal incision, close to the umbilicus, was drained with gauze and the remaining portion carefully sutured. Six months after the operation the abdominal cicatrix was found to be perfectly sound.

Delore and Cotte's intraperitoneal urachal cyst, to which I have already referred, is reported in their instructive monograph on big cysts of the urachus. The patient was a girl, aged 20 years, very sickly, and believed to be the subject of tuberculous peritonitis of the ascitic type. There was uniform distension with distinct fluctuation. A large cyst was exposed when the parietal peritoneum was incised; it descended into the pelvic cavity. It contained blood-stained fluid and fibrinous masses, and when it was emptied and drawn through the abdominal incision Delore found that it was connected below with the fundus of the bladder by a short cord which formed an entirely extraperitoneal pedicle and was clearly the lowest portion of the urachus. When the cord was divided the cyst was free of all connexions with the patient's body. The broad ligaments and other peritoneal folds near the cyst were normal. The patient made a speedy recovery. The outer wall of the cyst was the muscular coat of the urachus; the inner wall had been greatly altered and deprived of its epithelium by inflammatory changes. The authors describe minutely how they found on careful dissection that the cyst was invested over the whole of its extent by the peritoneum, and that at the level of the attachment of the cord connecting it with the bladder this fold of serous membrane ceased. A tough cord ran from the pedicle over the anterior surface of the cyst and was lost in the tissues of the tumour and abdominal wall at the level of the umbilicus. In its middle portion this cord, like the cyst, was completely intraperitoneal. There can be little doubt that Delore and Cotte's tumour was a cyst developed in a urachus which possessed a mesentery, an exceptional condition observed, however, as above mentioned, by more than one writer in adult subjects where the urachus was otherwise normal. The authors are probably correct in their theory that it represented the persistence of a fœtal condition. That, on the other hand, a meso-urachus can be acquired is very doubtful, for reasons given above in reference to Morestin and Mériel's incipient urachal cysts in adults.

The last in this series of recent cases has hitherto been unpublished. Mr. F. S. Eve has presented to the Museum of the Royal College of Surgeons of England a unique specimen of cystic sarcoma of the urachus and has kindly supplied me with the following notes:—

A man, aged 38 years, was admitted into the London Hospital with a swelling in the hypogastrium noticed for several weeks and associated with pain after micturition. A cystic tumour filled the lower part of the abdomen, especially to the right, where it extended towards the loin. It did not dip into the pelvis. On puncture dark blood came away; a few days later a rigor occurred with vomiting and a rise of temperature to 104°. Mr. Eve then operated, exposing a large cystic

bladder became distended, and at length urine passed entirely through the umbilicus. Rupture of an adherent ovarian cyst was suspected, but a catheter passed into the umbilicus met another introduced through the urethra. The uterus righted itself and delivery occurred at the fifth month. Unterberger gives a good summary of cases of urachal fistula and cystic fistula.

[6] *Vesstic* is misprinted *veine* in the original report.

tumour; the parietal peritoneum was reflected over its anterior and superior surface. Five pints of dark bloody material were removed. The cyst adhered to the omentum which bore engorged veins, and to an inch and a half of small intestine which was infiltrated where adherent. The adherent portion of the wall of the gut was excised and the wound closed with sutures. The lower part of the cyst was intimately connected with the bladder, the serous coat of which organ was reflected on to its surface. This peritoneal covering was divided and the cyst carefully dissected away from the bladder. During this process the bladder was opened, for the vesical wall at this point was so thin that the cavities of the cyst and the bladder were only separated by the vesical mucous membrane covered by a few muscular fibres. The opening was sutured, but not without great difficulty owing to the thinness of its walls at this point. The sutures were further protected by gauze packing. A gauze drain was passed into the pelvis and a catheter retained for a while in the bladder. Neither flatus nor fæces could be made to pass after the operation and the patient died on the fourth day. There was no general peritonitis, but the pelvic peritoneum had become inflamed at the point where the gauze had been applied.

Mr. Eve examined the specimen and found that it was a large allantoic cyst separated from the posterior superior surface of the bladder by nothing except a very much thinned mucous membrane. Their cavities, however, did not communicate. The inner wall of the cyst was lined at certain points with very vascular polypoid masses which proved on microscopical examination to be sarcomatous. The most unusual feature of this cyst was its malignancy, but its peritoneal relations were of greater importance in respect to the subject of this communication.

Aveling and Bland-Sutton have already reported a case of multilocular myosarcoma of the sheath of the urachus, but it did not involve the urachal canal and was quite unconnected with the bladder. The specimen No. 417B in the pathological series of the Museum of the Royal College of Surgeons of England was supposed, when first examined, to have developed in the urachus, but Mr. J. H. Targett considered that it was a myxo-sarcoma which originated in the connective tissue surrounding the bladder.

Mr. Eve's cystic sarcoma seemed to possess a partial peritoneal investment, as in Delore and Cotte's case, but it was sessile on the bladder, whilst in the latter case the cyst was separated from the bladder by a segment of urachus. In the instances of extraperitoneal urachal cyst above noted the tumour was sessile on the bladder in E. D. Ferguson's case, and so also was the bilocular cyst which I reported in 1898. On the other hand, in the case which is the subject of this communication the cyst and the bladder were separated by a segment of urachus. These opposite relations of cyst to bladder were demonstrated respectively in the incipient tumours discovered by Morestin and Mériel.

The malformation of the genitals, a unique feature in my case, deserves a little consideration. After discussing it I will dwell once more on the extreme asymmetry of the cyst which together with the inflammatory complications in its neighbourhood simulated appendicular abscess. In conclusion I will comment on the surgery of pure urachal cysts.

Relation of the Urachal Cyst to the Arrested Development of the Genital Tract.

In my case it was clear that there was not a cystic urachal fistula but a pure urachal cyst which was separated by a short cord, the lowest part of the urachus, from the bladder. There was no evidence of malformation of the bladder itself; its fundus and anterior portion as well as the urethra were normal, nor was there any sign of abnormality in the ureters sufficient to interfere with their functions. The structures making up the vulva were also well developed and the lower part of the vagina was present, nor had either genital gland strayed into the inguinal canal. On the other hand, the upper part of the genital tract showed marked arrest of development. The short canal, which transmitted menstrual blood into the right side of the blind end of the vagina, represented the upper part of the vagina, the cervix, and more or less of a right uterine cornu with its endometrium. The firm, moveable body above and behind the blind end of the vagina was most probably the left cornu connected with the right by a thin band, as is not rarely seen in cases of uterus unicornis in parous women. These relations were not difficult to define after the patient had recovered from the operation, and no cyst remained to interfere with bimanual palpation. I admit that the body which felt like the left cornu might have been the left ovary, in which case the cornu would more probably be suppressed altogether. I made out during the operation an ovary-like structure close to the right cornu. The presence or absence of the Fallopian tubes and the disposition of the pelvic peritoneum remain mysterious, though there was no trace of a hæmatosalpinx or a hæmatometra. Although there were no external signs of hermaphroditism, I cannot say positively that both genital glands must have been ovaries. Dr. A. Broca recently operated for double inguinal hernia on a subject who was a female according to all external appearances.[7] The vagina, clitoris, and hymen appeared normal, yet both genital glands were true testicles. Each occupied a hernial sac.

Some pathological change early in fœtal life must have caused the two abnormal conditions. Professor Keith in his recent museum demonstrations at the Royal College of Surgeons of England explained how there was every reason to believe that disease of adjacent maternal structures, such as endometritis, prejudicially affects the normal evolution of fœtal elements derived from the allantois, and the same may be said of the gradual conversion of Müller's duct into Fallopian tubes, uterus, and vagina. For the cystic condition of the urachus and the arrested development of the uterus in my case there must have been a common cause. The urachal cyst presumably represented in a very mitigated form the arrest of development known when extreme as ectopia vesicæ.[8] In this distressing variety of malformation and also in complete ectopia of the abdominal viscera non-union of Müller's ducts has repeatedly been observed (E. Chill, Author). According to A. Keith the uterus is double in one out of six specimens of ectopia vesicæ in London museums, whilst in seven specimens of ectopia in females combined with an open yelk sac Müller's ducts are unfused in all.

The faulty condition of the genital tract in my case was of little surgical interest, as it was not of a kind such as could be remedied by the knife or by some plastic procedure. It was the condition of the urachus which demanded operative interference.

Asymmetry of Urachal Cysts.

In the present case the cyst lay in the right iliac fossa, the middle line forming its limits to the left. Some intestine was adherent to the cyst on the right, so that there was resonance on percussion, and there was likewise local pain and tenderness. Thus an asymmetrical urachal cyst may simulate appendicular abscess.

Arguing without clinical evidence we might conclude that a urachal cyst would develop symmetrically. This conclusion, however, is belied by experience. In the remarks on recent reports given above it was noted that in Weiser's case the cyst filled the left side of the abdomen, whilst Eve's cystic sarcoma lay mainly to the left. The cyst removed by Douglas of Nashville in 1897 was also asymmetrical, distending the abdomen chiefly to the right.

This asymmetry becomes less surprising when we remember that it often exists from the beginning. Delore and Cotte, speaking of minute urachal cysts as described by pathologists, observe that these dilatations sometimes involve the entire lumen and circumference at the point of the urachus where they develop, but that as a rule they affect only a portion and form true diverticula, which may become completely isolated from the canal of the urachus. Thus the pathology of this asymmetry is very clear and its clinical importance quite evident.

Association of Urachal Cysts with Peritonitis.

The symptoms of peritonitis in this case, where there was a conspicuous swelling in the right iliac region, indicated appendicular abscess. Peritonitis had developed around an asymmetrical cyst of the urachus. The first attack of pain occurred at a menstrual period, so that when the atresia was detected I naturally suspected retained menses. But, the

[7] Compare the case recently reported by Arnolds in the Monatsschrift für Geburtshülfe und Gynäkologie, October, 1908 (vol. xxviii.), p. 463, where an operation was performed on a married man, aged 59 years, subject to diabetes, for the removal of a "tumour of the left testis." The "tumour" proved to be a uterus bicornis with well-developed Fallopian tubes and a pair of testes each with an epididymis, but neither had a vas deferens. See also Cornil and Brossard "Un cas de Coexistence dans la Tunique Vaginale d'un Utérus, de deux Trompes et de deux Testicules," Revue de Gynécologie et de Chirurgie Abdominale, March–April, 1908. The patient was a man aged 26 years. See also Cranwell's long series, Les Hernies Inguinales de l'Utérus, ibid., Sept.–Oct., 1908, p. 777.

[8] Epispadias is the rule in ectopia vesicæ in males. A. Keith finds that hypospadias is not associated with this condition. In Bryant's second case of urachal cyst, or rather cystic fistula (*vide supra*), there was slight hypospadias.

swelling did not increase during the next monthly period when the patient was under my care, and I found at the operation that it was not a hæmatometra or a hæmatosalpinx. We must therefore turn back to the local peritonitis. The patient in this case was evidently exposed to some unfavourable influence which caused peritonitis around the cyst.

In my first case, reported in 1898, the patient, aged 59 years, had been subject for nine months to pain in the lower part of the abdomen; the cyst was then detected, and symptoms of peritonitis came on periodically until two months later, when I operated. I find on referring to my original case-book that the menopause had become complete over nine years before—that is, when the patient was about 50. In fact, there is no reason to believe that the catamenia had anything to do with either case. In both I found omental and intestinal adhesions to the parietal peritoneum lining the back of the cyst. Other writers, Delore and Cotte, Weiser, &c., have reported similar complications. Indeed, peritonitis seems to be the rule when a urachal cyst has reached proportions sufficient to give rise to symptoms leading to its detection.

These symptoms appear very irregularly, which is one reason why *encysted dropsies* and *tuberculous peritonitis* are so apt to be confounded with urachal cysts. The error of mistaking the former for the latter, into which Hoffmann and Tait fell, has, as I have been at some pains to explain, greatly impaired the value of statistical records of urachal tumours.

Age.—In the present case the patient was 17 years of age, in Weiser's she was only 11 years, and in Delore and Cotte's 20 years. Urachal cysts are relatively frequent in young girls, and as they are likewise subject to tuberculous peritonitis and to inflammation of the vermiform appendix we can see how easily errors of diagnosis may occur.

Surgical Treatment of Pure Urachal Cyst.

Any communication between the interior of a urachal cyst and the cavity of the bladder, or the surface of the body at the umbilicus, greatly increases the difficulties and dangers of operative measures. It is partly on that account that I have confined my observations almost entirely to pure urachal cysts. Whenever it seems fairly clear that a cyst of this kind can be extirpated without the dangers of dissecting in the dark amidst uncertain relations posteriorly the radical operation should be undertaken. This, however, itself not free from risk even under the most favourable circumstances, is not always possible, as shown by the reports of many surgeons, whilst in the present case the posterior wall, for special reasons already given, could not have been safely separated from the abnormal structures in close relation to it. We must remember that in urachal fistula the insertion of the ureters into the bladder may be abnormally high (Mikulicz), and we are dealing with a malformation closely related to fistula. The surgeon must in many cases be content with partial measures which, as I have explained, were successful in Weiser's, E. D. Ferguson's, and my own two operations. As much as possible of the inner lining membrane must be dissected away; in the present case this was readily effected, but in my 1898 case it was impracticable, the membrane having been destroyed by degenerative changes. Partly on that account and partly because the tumour was bilocular I found drainage necessary. A sinus developed but closed within six months, nor did it ever open again. The patient died from cancer of the pylorus and pancreas six years later. In the present case there was no indication for drainage. The firm and fairly thick main wall of the cyst, fibro-muscular or purely fibrous, is very favourable for treatment by whip-stitching or any similar plastic procedure suitable according to circumstances.

During the operation, complete or partial, the surgeon must always carefully ascertain the relations of the cyst to the bladder. If the cyst be sessile it may be impossible to remove it without damage to the walls of the bladder, which will therefore require repair by suture. When, on the other hand, the cyst is separated from the bladder by a segment of urachus, it must be remembered that the segment may have an open canal communicating with the bladder. The microscope showed that in the present case (Fig. 2) it was open, although there was no proof that it actually ended unobstructed in the bladder. Lest a urinary fistula should develop, as appears to have happened in a case described by Ill many years ago, that writer treats the divided segment as though it were a vermiform appendix, turning in its cut edges and applying a Lembert suture. In the present case I transfixed the segment and tied it as though it were a pedicle of an ovarian cyst. In any case, it should not be tied without transfixion as though it were an artery. The loop might easily loosen or come away, and the canal would then be patulous. We know that this may happen when the stumps of both Fallopian tubes have been ligatured in a double ovariotomy, as pregnancy has followed, which means that the canal of one tubal stump must have transmitted an ovum from the relics of one ovary. Should the ligature come away from the urachal stump a urinary fistula of a very bad type would develop if Wutz's valve were forced open by over-distension of the bladder. The risk of such a complication under these circumstances, and the fact that a pure urachal cyst in males is occasionally converted into a secondary cystic fistula full of urine, reminds the surgeon that, as I have already remarked, we ought to be more sure about Wutz's vesico-urachal valve, or whatever it may be, that really protects the vesical orifice of the urachus.

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THE ALCOHOL INJECTION TREATMENT FOR NEURALGIA AND SPASM.

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THE treatment of trigeminal neuralgia, or "tic douloureux," by means of drugs, electricity, vibration, percussion of the nerves at their points of exit from the foramina upon the face, and other devices of various kinds has always proved a failure in genuine severe cases of this extremely painful disease, ever since Trousseau 50 years ago drew attention to it under the title of "epileptiform neuralgia." Peripheral injection of the painful spots by means of osmic acid, chloroform, cocaine, &c., has given relief for short periods, varying from hours to a few weeks, but hitherto real relief has only been obtainable by means of surgical aid. Resection of the various branches of the fifth nerve, either peripherally at their points of exit from the foramina upon the face, or more centrally in the zygomatic fossa, or intracranially, has brought relief from the pain for several months or even years, the results being generally better the nearer the resection is done to the Gasserian ganglion. Permanent cure does not result from resection, as with the regeneration of the nerve fibres and consequent disappearance of the anæsthesia on the face which was produced by the division of the nerve the pain returns eventually with equal or greater severity, probably being hastened in some cases through the irritation of the nerve by the cicatricial contraction of the scar tissue resulting from the cutting operation. This scar tissue produced by resection operations makes a second operation at the same spot practically impossible, and

consequently, when the spasms of pain return owing to the regeneration of the nerve it will be necessary to resect the nerve at a point nearer to the skull, or even intracranially. Owing to the unsatisfactory results on the whole of resection the operation of extirpation of the Gasserian ganglion was devised, and in the hands of skilful surgeons permanent relief from the pain has been obtained in a considerable number of cases. It is, however, a very difficult operation to remove the ganglion completely, and, if only partially removed, the pain may continue unabated, or may return later. The severity of the operation is, moreover, indicated by the percentage of deaths resulting from it, even in the most experienced hands, and the scarring and deformity produced by the operation are also disadvantages.

It is owing to the introduction by Schlösser in 1903 of his method of deep injection with 80 per cent. alcohol of the main trunks of the fifth nerve at their points of emergence from the skull that the principle of resection is again justified. Injection of a nerve with alcohol of over 70 per cent. strength causes immediate paralysis of the functions of the nerve, with the setting up of a degenerative neuritis extending from the point of injection to the periphery. With a purely sensory nerve, such as the superior maxillary, the second division of the fifth nerve, anæsthesia will be produced over the area of the skin of the face and mucous membrane of cheek and gum supplied by the nerve, with at the same time more or less œdema of the skin. If a mixed motor and sensory nerve is injected with the alcohol, such as the median or the sciatic, motor paralysis as well as anæsthesia will result—a fact to be clearly borne in mind when applying this treatment to such mixed nerves.

This method of local destruction of the nerve fibres by deep injection of the nerve trunk with strong alcohol is in reality an extremely elegant method of resection of the nerve, and the after-history of the cases is somewhat similar, inasmuch as regeneration of the nerve fibres takes place after several months, the anæsthesia gradually disappears, and in cases of severe trigeminal neuralgia the attacks of pain are likely to gradually reappear, the interval of freedom from the pain varying from four or five months to as long as 18 months or more. The great advantage of the deep injection method over resection of the nerves lies in the absence of scarring and the consequent fact that injection of the nerve may be repeated at the same point an indefinite number of times. Moreover, it is probable that after resection of a nerve the formation of scar tissue in the wound irritates the central end of the nerve after division and surrounds the new nerve fibres after regeneration, thereby tending to shorten the period of relief after division of the nerve, and also ultimately to increase the pain from irritation. This factor is absent with the injection method, as the track of the needle leaves practically no scar, and the point of entry of the needle on the cheek is in most cases impossible to identify a week after the injection. Schlösser has also found, after an experience of 123 cases of trigeminal neuralgia treated by this method, many of them repeatedly injected at intervals for recurrence of the pain, that practically every case can be relieved by this procedure, that the average period of relief from pain obtained is over ten months, and that the interval of relief from pain obtained lengthens after each successive injection. These facts alone are sufficient to warrant an extended trial of the method, and it has been a matter of surprise to me that no literature on the subject has appeared in this country, and that when I first began to use this treatment last August I could hear of no one else who had tried it, and indeed very few who had as much as heard of it. On the Continent and in America many are using the mode of procedure, with apparently the same success as did Schlösser, and good descriptions of their modifications of the method of deep injection have been published in Paris by Ostwalt, and by Brissaud and Sicard.

In the October (1908) number of the *Practitioner* in my review of neurological literature I gave a description of the treatment, and on Feb. 25th, 1909, I read a paper on my experiences of the method on 13 cases before the Neurological Section of the Royal Society of Medicine, demonstrating the method on the skull, and I also showed two patients, both subjects of trigeminal neuralgia affecting the left second division of the fifth nerve, whom I had injected with alcohol four and a half months and three weeks previously respectively, with complete disappearance of the pain in each case. Up to the present time I have used the alcohol injection treatment in 17 cases, six of which are cases of paroxysmal trigeminal neuralgia.

Trigeminal neuralgia.—In one case only, one of my earliest cases, did I fail to relieve the pain, due to my failing to reach the foramen ovale through faulty technique. In this case the pain was mostly in the third division, affecting the lingual nerve, in a woman, aged 55 years, who had been subject to the attacks of pain for the past 17 years, for part of the time the pain being bilateral, a very rare condition in trigeminal neuralgia. In each of my other five cases the pain has been immediately relieved, though the last case was done so recently as a week ago that it is premature to speak yet of a cure. Of the remaining four cases, one patient—a case of 11 years' duration in a woman, aged 63 years, affecting the left second division of the fifth nerve—has had five months' relief from her attacks of pain since I injected the left infra-orbital nerve and the palatine foramina in October last. This was followed by complete anæsthesia of the cheek and palate, with complete disappearance of the pain, which was so severe, and the attacks of which were so frequent, that she said she thought she "would have gone mad." The attacks of pain were started by eating, talking, touching her nose or upper lip, or would come on spontaneously, especially at night. During the last month the anæsthesia has been gradually lessening on the upper lip and cheek, and the attacks of pain are commencing to come on again, though not yet with such severity as formerly. She has asked me to inject the nerve again, and this time I shall inject the superior maxillary nerve close to the foramen rotundum, in addition to again injecting the infra-orbital nerve and the anterior palatine nerve. By attacking the main trunk of the nerve close to the skull, as well as destroying it peripherally, the period required for regeneration of the nerve fibres, and the consequent relief from the attacks of pain, is likely to be longer, and I shall hope to obtain for her not less than six months', and possibly longer, freedom from return of the pain. Of the remaining three cases, one was a case of three years' duration of spasms of pain affecting the right third division of the fifth nerve in a woman aged 78 years. Early in December I injected 80 per cent. alcohol around the foramen ovale, causing complete passing away of the pain. In this case the injection was perineuritic, not into the substance of the inferior maxillary nerve. Consequently, although a certain degree of numbness along the jaw was produced, there was no anæsthesia, and yet the attacks of pain completely subsided, although before the injection they were so severe and frequent that scarcely any food could be taken, and that only in a liquid form.

Another case of epileptiform neuralgia, affecting the left second division of the fifth nerve, occurred in a woman, aged 40 years, who had suffered severely for six years. I saw her in several of the attacks of pain, the most severe and intense that I have ever witnessed. The slightest touch on the upper lip or side of the nose would start an attack, causing her to scream out, to clasp her hands to her head, and to moan and rock with the pain for about three-quarters of a minute. In such a case, it appears to me, it would be more than brutal to attempt to inject without employing a general anæsthetic, though it is the practice of all the continental and American workers, following Schlösser, to use no anæsthetic. Eight weeks ago under chloroform I injected the second division of the fifth nerve of this patient at the foramen rotundum with 15 minims of 80 per cent. alcohol, and also injected a few minims into the infra-orbital foramen. The result was perfect, there being complete loss of pain and inability to start it in any way by rubbing the skin of the face, blowing the nose, or any of the movements which formerly infallibly induced the attacks. There was considerable œdema of the cheek and upper lip for three days, which then disappeared completely, though the anæsthesia of the area of skin and mucous membrane supplied by the superior maxillary nerve remained complete.

Another case of trigeminal neuralgia affecting the first or ophthalmic division on the left side, in a woman, aged 54 years, who had suffered from recurrent severe spasms of pain over the eyebrow for the past eight years, was completely relieved after two injections at the supra-orbital notch, mental foramen, and under the skin of the outer portion of the eyebrow and forehead. Although the pain was limited to the ophthalmic division of the nerve there was a sensitive area on the left side of the chin in front of the mental foramen,

pressure on which, or sometimes even touching, would start the supra-orbital pain. At the first injection with alcohol I had overlooked the fact that there was an area on the outer part of the eyebrow which was very sensitive, though less so than the region of the supra-orbital notch, and it was not until the pain and sensitiveness of the supra-orbital region and the chin had passed away as the result of the first injection that I became aware of this painful area on the outer portion of the forehead, pain in which was started by rubbing the skin of the upper eyelid or the eyebrow. A second injection under the eyebrow and again of the supra-orbital nerve made this region also anæsthetic, and all the attacks of pain were completely subdued.

In addition to these cases of true trigeminal neuralgia, I have also treated three cases of severe recurrent supra-orbital neuralgia, post-influenzal in origin, with injection of alcohol and eucaine around the supra-orbital notch. In each case one injection has been sufficient to relieve the pain at once, causing anæsthesia of a patch of skin above the eyebrow. The characteristic of these post-influenzal supra-orbital neuralgias is their daily recurrence, usually starting about 10 o'clock in the morning, reaching their maximum intensity of pain after an hour or two, and dying away after 4 P.M. or 5 P.M. The pain is often intensely severe, though it differs from true trigeminal neuralgia in the long continuance of the attack, the spasms of pain in trigeminal neuralgia rarely lasting more than from one-half to three-quarters of a minute. If untreated, these post-influenzal supra-orbital neuralgias may recur daily for three weeks or longer. After the alcohol injection, although the pain is almost instantaneously relieved, a neuralgic attack may return about three hours later after the action of the eucaine has worn off. This is at once controlled by the administration of a dose of pyramidon and effervescing caffein citrate, and there is usually no further pain, though sometimes a second injection is required.

Pain in the face due to implication of the branches of the fifth nerve by cancer of the tongue or tonsil, or by growths at the base of the skull, may be relieved completely by deep injections of alcohol into the second or third division of the fifth nerve at the foramen rotundum or foramen ovale. I have thus completely relieved two such patients.

One patient was a man, aged about 46 years, who was suffering from a tumour at the base of the skull, probably involving the sphenoid bone. He became gradually blind from optic atrophy, and later developed paralysis of the left external rectus, and began to suffer violent pain in the face on both sides, with anæsthesia of the right cheek. The pain became almost unbearable, and as anti-syphilitic treatment did no good, I injected both infra-orbital foramina with 80 per cent. alcohol. This completely relieved his pain for the time, but later pain was felt along the left lower jaw, indicating the extension of the growth to involve the left inferior maxillary nerve. I therefore, under an anæsthetic, injected the left inferior maxillary nerve at the foramen ovale with alcohol, and the patient when last heard of had remained quite free from pain for several weeks.

The other case of inoperable carcinoma of the tongue was that of a patient who was sent to me from the surgical out-patients at St. Mary's Hospital because of the severe pain from which he was suffering in the left side of the tongue and jaw. Without using any anæsthetic, I injected the left inferior maxillary nerve at the foramen ovale with 80 per cent. alcohol, causing anæsthesia of the chin and complete loss of the severe pain.

Three cases of *clonic facial spasm* I have also cured by injection of alcohol around the exit of the facial nerve from the stylo-mastoid foramen. This causes slight paresis of the nerve, but brings about immediate cessation of the clonic spasms of the facial muscles. If the nerve is actually punctured and injected with the strong alcohol, complete facial paralysis will be produced, though this will be recovered from in two or three months.

Sciatica may be successfully treated by injections of strong alcohol, though I am quite convinced that the injections must be perineuritic, not into the substance of the nerve. I have proved that the injection of five minims of 80 per cent. alcohol into the median nerve causes paralysis of the flexors of the fingers and of the radial flexor of the wrist, followed by reaction of degeneration in these muscles, in addition to analgesia of the median distribution on the hand. Cases have also been published of paralysis of the leg following an alcohol injection into the nerve, and these, together with Finkelnburg's experimental work on the same point, completely disprove Schlösser's statement that he injects 15 minims or more into the sciatic nerve for sciatica, curing the pain without causing any paralysis. What he really does, no doubt, is to inject the alcohol around the sheath of the nerve, not into the nerve itself, and this perineuritic injection may be sufficient to relieve all pain, as indeed occurred in one of my cases of trigeminal neuralgia, affecting the right third division of the fifth nerve quoted above. Such a perineuritic injection of 80 per cent. alcohol I made recently in a case of sciatica of seven weeks' duration, bringing about immediate relief from the pain. The actual injection of the alcohol is somewhat painful, but the pain passes off after a few seconds. The actual insertion of the needle may be made practically painless by freezing the skin with ethyl chloride. The nerve lies at a depth of from two to three inches from the surface at the lower gluteal fold, which is generally the best point to choose for the injection. No general anæsthetic should be given owing to the danger of puncturing and injecting the nerve itself, and the patient's sensations will be the guide as to when the point of the needle reaches the sheath of the nerve, practically no pain being felt after the skin puncture until the sciatic nerve itself is reached. It is not always an easy matter to hit off the nerve, and those who imagine that they are treating sciatica by acupuncture of the nerve by thrusting from four to six needles into the nerve, are, I am sure, deluding themselves; most, if not all, of the needles do not hit the nerve at all, but pass to one side of it. I have proved this several times in the post-mortem room by attempting to inject the sciatic nerve at the lower gluteal fold with methylene blue and then dissecting down to my injection, and have found almost invariably that my injection has been to one side of the nerve, once as much as an inch and a half to one side. However, the nerve may be hit, and therefore I think it necessary that no general anæsthetic should be used, as the point of the needle must feel for the nerve, and the patient's sensations of pain down the leg will be the guide when the sheath is reached.

Technique for trigeminal neuralgia.—In all cases of trigeminal neuralgia all tender spots, irritation of which gives rise to the pain, should be injected subcutaneously with several drops of the 80 per cent. alcohol. This is a comparatively simple procedure. Next, the various superficial foramina, such as the mental foramen for the third division, the infra-orbital foramen for the second division, and the supra-orbital notch if the ophthalmic division of the nerve is affected, should also be injected with a few drops of the alcohol. Of these the mental foramen is the most difficult to hit. Other foramina that may also be injected in suitable cases are the inferior dental, the palatine, the malar, and the anterior ethmoidal for the nasal branch of the first division. For the inferior dental a strong curved needle must be used and it may be reached either round the back of the ascending ramus of the mandible or from within the mouth.

Deep injections of the second division of the fifth nerve in the spheno-maxillary fossa at the foramen rotundum and of the inferior maxillary nerve at the foramen ovale require a great deal of practice. This must be acquired first upon an articulated skull and then in the post-mortem room. Many different articulated skulls should be studied in order to become familiar with the bony variations that are liable to be met with in the zygomatic fossa and in order to become acquainted with the varying depth of the foramina from the surface in different sized skulls. Although general directions can be given for reaching these two deep foramina, unless absolute familiarity with the base of the skull in this region is attained to the degree of being able to call up a mental picture of the parts, and thus recognise what the point of your needle is doing, frequent failure is sure to result and great damage may be done. In order to attain the certainty of placing my injection in the foramen ovale, or foramen rotundum, I have found it necessary to practise on a large number of articulated skulls and in over 60 bodies in the post-mortem room, using methylene blue for my injection in the latter, and tracing the course of the injection after taking out the brain. My methods are, roughly, as follows.

For the *foramen ovale* I use a moderately stout hollow needle, 1·2 millimetres in diameter, with a short point, without a stylet. This is pushed through the cheek below the

zygoma, on a line joining the ala nasi with the incisura notch of the ear, and about 1¼ inches in front of this notch. If pushed in horizontally the point of the needle will sometimes strike the ramus of the mandible just below the sigmoid notch, but depressing the handle of the needle slightly will allow the point to slip through the lowest level of the sigmoid notch into the zygomatic fossa. Directing the needle slightly upwards and backwards the base of the skull will be reached at a depth of about 1¼ inches, the point of the needle striking the under surface of the great wing of the sphenoid. The handle of the needle must then be depressed and the point of the needle be made to slide along the bone until it engages in the foramen ovale, at a depth usually of 1¾ inches. In some skulls the needle must be directed more upwards, as high as 30 degrees upwards, and in others it must be directed at the same angle backwards. If the needle is pushed in too horizontally the wall of the pharynx will be pierced at a depth of from 2 to 2¼ inches, or again, if it be pushed too far through the foramen ovale, the cavernous sinus and internal carotid artery will be punctured. To avoid this the needle should never be passed through the foramen to a greater depth than 2¼ inches from the surface, even in those cases where it is thought advisable to inject the ganglion itself. If the neuralgia is limited to the third division of the nerve it will be sufficient usually to inject the nerve itself at the level of the foramen, without passing the needle through into the ganglion. Brissaud and Sicard adopt the landmark of the posterior edge of the external pterygoid plate, which will be struck at a depth of about one and a half inches, and then feeling with the point to its upper and posterior edge, when the needle will slip back into the foramen which lies immediately behind it. They also sink the needle in nearer to the zygoma. This line has two disadvantages, as the direction of the needle must be altered after it has been sunk deeply, which is not always easy to do with the fine needle they use, and, more important, the needle is likely to be caught under the pterygo-spinous ligament, and thus prevented from reaching the foramen ovale at all. Sometimes this ligament is completely ossified by a bridge of bone joining the upper and back border of the external pterygoid plate to the spine of the sphenoid, forming a foramen which would be mistaken for the foramen ovale. Indeed, it is clear from their description of their method[1] that they have fallen into this error in at least one case. They recommend a fine platinum needle, of 0·7 millimetre diameter only. I do not find a fine needle nearly so satisfactory as a stouter one, though I do not consider it necessary to use such a stout one, with a stylet, as recommended by Schlösser, and adopted by most of his followers. I find that a fine needle bends so easily that it is quite impossible to be sure that the point of the needle is following the changes of direction given to the handle, and I do not find that the stouter needle causes any more vascular injury than does the fine needle. The internal maxillary artery turns into the zygomatic fossa at the level of the bottom of the lobe of the ear which is well below the bottom of the sigmoid notch, and the only branch liable to injury is the middle meningeal, and the needle should not be directed far enough backwards to damage this vessel.

The *foramen rotundum* is best reached by sinking the needle below the malar bone in front of the coronoid process slightly in front of a line prolonging the posterior border of the orbital process of the malar across the zygoma. The needle should be sunk inwards, backwards, and upwards at an angle of about 40 degrees upwards and 30 degrees backwards. The needle will then strike the anterior border of the external pterygoid plate at a depth of about 1¾ inches, and the point of the needle should then be directed slightly forwards so as to slip in front of the anterior border of this plate through the pterygo-maxillary fissure into the spheno-maxillary fossa. Directing the needle at the same angle upwards the point will reach the superior maxillary nerve at its point of exit from the foramen rotundum at a depth of about two inches from the surface, though in the small skull of a woman of the height of 5 feet 2 inches the foramen rotundum will be reached at a depth of only 1¾ inches. It is most important to remember the depth at which the foramen lies as it is not always possible to make the point of the needle engage in the foramen owing to the backward projection of the antrum in some skulls narrowing the pterygo-maxillary fissure to such a degree that the needle passes in front of the foramen and cannot be made to pass into its anterior lip. If the needle be pushed farther in the same line for three-eighths of an inch the optic nerve will be struck at the optic foramen, and in some skulls it is possible to push the needle straight through the sphenoidal fissure into the brain. When injecting the superior maxillary nerve, therefore, the needle must never be sunk to a greater depth than 2¼ inches from the skin for a large skull, as of a man of 6 feet in height, or more than 1¾ inches for a small skull of a woman of 5 feet in height. If the needle cannot be felt to engage in the foramen rotundum the injection must be made at the required depth, and it is then always perineuritic, the nerve trunk not being actually pierced. Fifteen minims of the strong alcohol slowly injected is perfectly safe from injuring the optic nerve or the third nerve if the precautions as to depth are observed.

Schlösser, Brissaud and Sicard, and all the other users of this method whose writings I have perused use no general anæsthetic, principally for the reason that the patient is able to inform them by a scream of pain when their needle reaches the nerve. In cases of trigeminal neuralgia especially I prefer to perform the injection under general anæsthesia, as thereby perfect stillness of the patient is ensured, and I am not conscious of being hurried, and can therefore perform the injection far better. If the bony anatomy of the parts is thoroughly familiar, as I have already urged to be absolutely necessary, it will be unnecessary to require the information from the patient as to when the nerve is reached, though this sign may be also secured by allowing the patient to come round partially from the anæsthetic after the needle has been inserted and the point is ready to strike the nerve. The patient will then be seen to give a twitch of the face as though in pain, though afterwards no memory of the pain remains.

It is almost needless to remark that the strictest aseptic precautions are necessary. Some advise keeping their needles in absolute alcohol, but I always boil my needles in 1 per cent. bicarbonate of potassium in distilled water immediately before use. The skin is sterilised with ether soap and is then rubbed with a little lysol, which is mopped off with absolute alcohol. The puncture wound is sealed with a small collodion dressing, which may be taken off after the third day.

A certain amount of œdema of the face is constant after alcohol injections, but this is of no consequence and it passes off after two or three days. Hæmatomata sometimes result from puncture of an arterial branch, but I have only encountered this once, when puncture of the infra-orbital foramen when injecting the infra-orbital nerve caused a slight hæmatoma of the lower eyelid and adjacent skin of the cheek.

In conclusion, I am of opinion that this method is a certain relief for trigeminal neuralgia, and though recurrence of the pain is likely after an interval, varying from four or five months to as long as 18 months, it is perfectly simple to repeat the injection whenever necessary. This appears to me far preferable to the more serious operation of extirpation of the Gasserian ganglion, and certainly should at all events be tried first.

In addition to trigeminal neuralgia, this method is of great service in controlling clonic facial spasm, and also other forms of neuralgia, such as post-influenzal supra-orbital neuralgia, the facial pain of inoperable carcinoma of the tongue or jaw, and in chronic sciatica. Tabetic neuralgia affecting the lower limbs and other causes of severe persistent neuralgia below the mid-dorsal region I consider may possibly be also relieved by this method, by injecting the spinal nerves at their point of emergence at the intervertebral foramina. These foramina I have found comparatively easy to reach for the lower dorsal, lumbar and upper sacral roots.

Wimpole-street, W.

[1] Revue Neurolgique, Nov. 30, 1907.

UNIVERSITY OF BIRMINGHAM: THE FACULTY OF MEDICINE.—The Ingleby lecture will be delivered on Thursday, May 27th at 4 o'clock in the Medical Lecture Theatre by Sir Thomas Barlow, Bart., K.C.V.O., M.D., F.R.C.P. Lond., who will take for his subject Raynaud's Disease and Erythromelalgia.

A SIMPLE OPERATION FOR THE COMPLETE REMOVAL OF TONSILS, WITH NOTES ON 900 CASES.

BY GEORGE E. WAUGH, M.D., B.S. LOND., F.R.C.S. ENG.,

SENIOR SURGEON TO OUT-PATIENTS AT THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET, W.C.

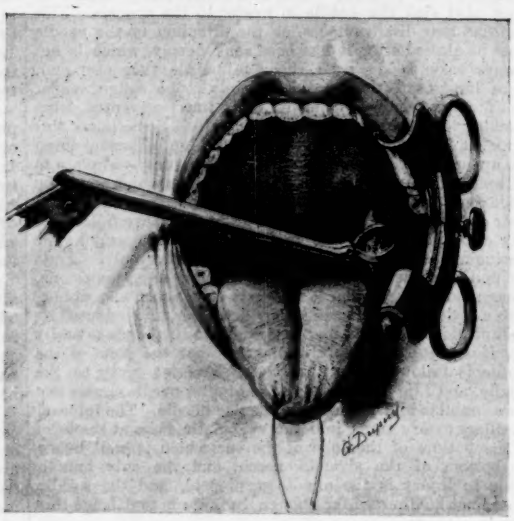
IT has long been recognised that the tonsil resembles in mode of development[1] and structure an ordinary lymphatic gland. That further, as the result of disease, it undergoes changes which are identical with those occurring in lymphatic glands in other parts of the body under similar morbid conditions. Nevertheless, the treatment of these conditions—except of such rare ones as invasion by malignant neoplasms—has not been carried out upon those surgical principles which govern the treatment of diseased lymphatic glands in other regions. The reasons alleged by writers upon the subject are generally either that that form of treatment which violates those principles—i.e., tonsillotomy—is quite satisfactory, or that that form of treatment which implies adherence to those principles—i.e., tonsillectomy—is too difficult.[2] Neither of these reasons appears to me to be valid. The failure of tonsillotomy by other operators to afford relief from the symptoms for which it was performed in 143 out of the 900 cases here recorded and the designing of a simple and safe form of tonsillectomy, to be described later, appear to support this conclusion.

It is probably a common experience of all large out-patient departments—and certainly of my own at Great Ormond-street—to find a large number of patients upon whom tonsillotomy has been performed and to whom no relief either of the local or general condition for which the operation was done has resulted. From the frequency with which the operation has been repeated—sometimes as often as three times, and from the fact that the operation has been performed by many operators at other hospitals in these 143 cases, it seems right to conclude that the cause of failure lies not with the operator but with the type of operation. Even in highly skilled and experienced hands the complete removal of a tonsil by means of the guillotine is a task of such mechanical difficulty as to be, except in a few rare cases, quite impossible.

The cause of failure to afford relief in these cases already alluded to is the persistence of the remains of septic tonsillar tissue of such a size as to be quite inaccessible to the guillotine. This further emphasises the fact that it is not primarily *the size* of the tonsil which matters, but *the septicity*, and this may be of a high degree in a comparatively small tonsil. By virtue of its situation, at the upper end of the alimentary tract, a diseased tonsil can pour septic contents from its cryptic surface continuously into the alimentary canal at the same time as absorption can occur through its lymphatics into the adjacent glands in the neck. It thus has a two-fold power of doing harm. The danger of continually swallowing septic matter from carious teeth has long been recognised, but the similar danger of continually swallowing septic material from decaying tonsils has not been sufficiently emphasised. This attitude of indifference has largely arisen from regarding the removal of tonsils as being only necessary when it is possible to slip them through the ring of a guillotine. Hence the potency of the small imbedded septic tonsil to do harm[3] is easily overlooked, and more especially in children who seldom complain of a "sore-throat," even when the tonsils are inflamed. Provided that the tonsils give rise mechanically to obstruction to swallowing or breathing on account of their size, or the patient suffers from frequent attacks of sore-throat, or has enlarged glands in the neck or intractable middle-ear disease, the cause of the trouble is promptly recognised. But there is a large group of cases which is characterised by none of these troubles, and is made up of children who are simply profoundly debilitated, poorly nourished, exhibiting lassitude both in work and play, and who are frequently described as being victims of a "weak constitution."[4] Of such a type are 126 of the cases here recorded. Sometimes there is direct evidence of disorder of the alimentary tract, such as pain and vomiting after food, obstinate constipation, or frequent attacks of offensive diarrhœa. It is not to be supposed, however, that these groups of symptoms are to be explained solely by the presence of diseased tonsillar tissue. They are merely evidence of chronic toxæmia, and in searching for the primary focus of infection the small imbedded irregular tonsil must not be overlooked. And even when this type of tonsil has been present—as it was in the 126 of the cases recorded and which presented these groups of symptoms—it was not considered justifiable to remove them until a physician had satisfied himself that no other cause for the illness could be detected. (Most of these 126 cases were under the care of my colleague, Dr. R. Hutchison, to whom I am indebted for permission to refer to his notes upon them.) That it was the main cause in a very large number of cases was indicated by the results following complete removal.

The objection to "tonsillectomy" on account of the difficulty of the operation has been overcome by the following operative procedure, which has already stood the test of application to over 900 cases.

FIG. 1.



Showing imbedded tonsil with free surface level with the pillar of the fauces grasped by conchotome.

The instruments required are two Hartmann's ring conchotomes (Hett's modification has added a useful serration to the margin of the lower ring), one pair of curved scissors, and one pair of fine-toothed dissecting forceps. The patient must be prepared by a preliminary visit to the dentist, so that no operation in the oral cavity is performed until all carious teeth have been stopped or removed. The patient is placed in a recumbent position with a sandbag beneath the shoulders, with the head falling slightly backwards, so that the naso-pharynx slopes backwards and downwards, thus enabling the small quantity of blood which is shed to trickle towards the nostrils rather than towards the larynx, whilst the slope is not so great as to cause engorgement of the pharyngeal venous plexus. A loop of silk is passed through the tip of the tongue for the purpose of retraction, and a gag is inserted between the last molar teeth. The tonsil is then seized in one of the pairs of ring

[1] I am indebted to Mr. G. S. Hett, having read his paper published in THE LANCET of Feb. 13th, 1909, in which he describes the development of the tonsil.

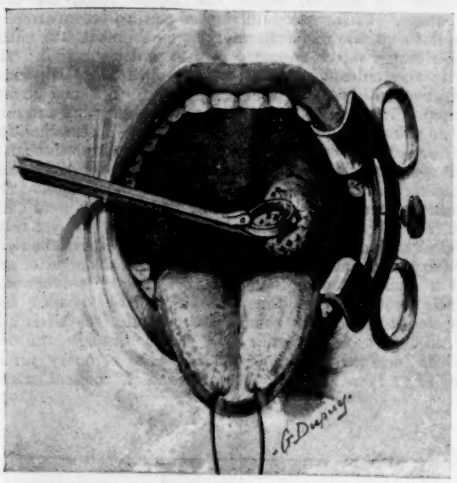
[2] Index of Treatment, art. Tonsillitis.

[3] Keen's Surgery, vol. iii., p. 451.

[4] Surgical Treatment, Cheyne and Burghard, vol. vi. p. 75.

forceps and gently drawn towards the middle line, so that the imbedded part of the gland bulges beneath its normal covering of the anterior pillar of the fauces. (Fig. 1.) Immediately external to the internal margin of the anterior pillar, just where it blends with the surface of the tonsil, an incision is made with the fine-toothed forceps, parallel to and extending

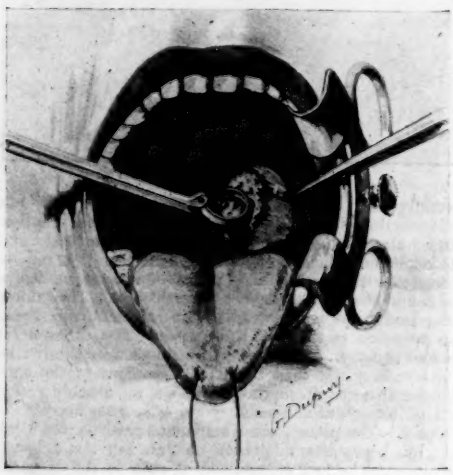
FIG. 2.



Tonsil drawn inwards and incision made along dotted line. This line is close to the free margin of the anterior pillar of the fauces, which does not appear owing to the bulging of the imbedded portion of the tonsil during traction.

for the whole length of the free margin of the anterior pillar. (Fig. 2.) This incision reveals the capsule of the tonsil which now appears as a glistening smooth bluish-white surface. (Fig. 3.) (The ease and success of the operation depend upon this incision displaying the capsule

FIG. 3.



Anterior pillar of fauces drawn outwards and tonsil removed from its bed by dissection. The capsule of the gland appears as a smooth bluish-white surface. The real size of the gland is now seen and is a striking contrast with the amount visible in Fig. 1, before the tonsil is drawn inwards.

of the tonsil and not entering its substance. This mistake is easily made by keeping too near to the free surface of the tonsil, and it is the common cause of difficulty and failure for beginners.) The ring forceps is then readjusted so as to get a firm hold upon the tonsil and the anterior pillar is drawn outwards by means of the fine toothed forceps. The tonsil is then practically dislocated from its bed, and the separation of the rest of the layer of fine cellular tissue, intervening between the capsule of the tonsil and the muscular wall of the pharynx, is easily effected either by the fine toothed forceps or by a closed pair of curved blunt-ended scissors which fit in behind the whole of the tonsil and push the pharyngeal wall away from it. (Fig. 3.) Since the tonsillar vessels are thereby torn across and are able to retract within the muscular wall of the pharynx, there is practically no bleeding—in fact, the absence of bleeding forms a striking contrast to the sharp hæmorrhage which ensues after the tonsil has been cut across by a guillotine.

The time occupied in the complete removal of both tonsils and adenoids is, on an average, three minutes. A brief deep anæsthesia with chloroform is necessary, and the coughing reflex should be abolished. If it is present it adds a distinct danger to the operation, since coughing enormously increases the hæmorrhage, and during the ensuing inspiration blood could easily be sucked into the larynx. Under the conditions detailed above there is no danger of this happening. During the operation traction upon the posterior pillar of the fauces must be avoided, since it gives rise to a troublesome spasm of the glottis.

For the after-treatment a simple mouth-wash is provided and a mixture containing salicylate of soda and chlorate of potash, administered every few hours. The patients are kept in bed for about 48 hours and are allowed solid food when they feel inclined for it. With children this is frequently on the day after the operation.

All the above 900 cases have been seen at the end of a week and at the end of five weeks from the date of operation. Their ages range from six weeks to 41 years. There have been no complications, such as hæmorrhage or sepsis. As a rule the temperature seldom reaches 100° F. after the operation. Of the 126 cases who had been chiefly under the care of Dr. Hutchison, suffering from general debility, 12 showed no improvement after the operation. In the remainder of the cases rapid and complete recovery was made. Of those suffering only from throat symptoms 774 cases have been operated upon. Of these 143 had already had their tonsils "guillotined"—some of them as often as two or three times—at other hospitals with no relief to them. They all made an uninterrupted recovery. A typical case from this group may be quoted.

The patient, aged nine years, had his tonsils guillotined at a London throat hospital in November, 1906, on account of sore throat. He continued to suffer from this affection until March, 1907, when he contracted scarlet fever. Since then, the attacks of sore throat had become more frequent. On examination, large imbedded masses of tonsillar material were seen to be present. Since the removal of these by dissection in July, 1907, he has remained quite well.[5]

Welbeck-street, W.

A RARE CARDIAC CONDITION: MITRAL STENOSIS WITH BALL-THROMBUS IN LEFT AURICLE.

BY ALEX. MILLS KENNEDY, M.B., CH.B. GLASG.,
ASSISTANT PATHOLOGIST TO THE GLASGOW ROYAL INFIRMARY.

IN cases of mitral stenosis it is not uncommon to find ante-mortem thrombus in the appendix of the left auricle, but such a curious and remarkable formation as the so-called ball-thrombus is an event of sufficient rarity to warrant its occurrence being placed on record.

The case was that of a well-developed and well-nourished woman, 47 years of age, who was admitted to the Glasgow Royal Infirmary suffering from a left-sided hemiplegia. The action of the heart was found to be irregular, and auriculo-systolic and ventriculo-systolic murmurs were made out at the apex. The second pulmonic sound was reduplicated. Four years ago the patient had been treated in this hospital for her cardiac condition. At that time a presystolic murmur at the apex was made out. It is 12 years ago since the

[5] This article has been unavoidably withheld from publication since December, 1908.—ED. L.

patient had been told by her medical adviser that she had a "weak heart." She died 12 days after her last admission.

At the necropsy the hemiplegic condition was found to be due to cerebral embolism, but all interest centred round the cardiac condition. The pericardium was healthy and its sac contained the usual quantity of clear fluid. There was considerable fatty infiltration over the right ventricle. The cardiac muscle was somewhat pale and soft, and there was a slight streaky appearance of the endocardium. The left ventricle appeared normal as regards size and showed no hypertrophy. The right ventricle was dilated and hypertrophied. The left auricle was greatly dilated and showed considerable hypertrophy; it was distended with blood and its appendix was filled with adherent ante-mortem thrombus, otherwise the auricular walls were perfectly smooth. Lying quite free in this auricle there was found a ball-thrombus 1½ inches in diameter and practically spherical. Its surface was perfectly smooth. Its colour and appearance were similar to those of the surface of a normal healthy kidney after removing the capsule. One-half of the sphere was rather paler in colour than the other. On palpation it felt as if it contained fluid. On section it was found to consist of a well-defined wall fully one-eighth of an inch in thickness, inclosing flaky clotted blood, which in the centre had undergone liquefaction. The mitral orifice was markedly stenosed, only admitting the tip of the little finger. The mitral cusps were greatly thickened and adherent to each other so as to leave only a circular opening; the chordæ tendineæ were thickened and shortened, and altogether the mitral orifice had the typical "funnel-shape." On holding up the opened left auricle it was seen that the ball could rest well into and over the mitral orifice like a ball-valve. The aortic valve was slightly incompetent and the cusps showed thickening along their lines of contact. The first part of the aorta showed slight dilatation. The right auricle showed some dilatation and slight hypertrophy, and there was some ante-mortem thrombus present in the appendix. The tricuspid and pulmonary valves were normal. The aorta showed slight atheroma around the orifices of the intercostal arteries, but there was no loss of elasticity. With the exception of some congestion of the lower lobe of the right side, both lungs showed no morbid change. The liver was normal in size, showed some old perihepatitis, but otherwise appeared healthy. The spleen was enlarged, firm in consistence, and showed a large hæmorrhagic infarction. There was considerable old perisplenitis. The right kidney (6 ounces) was double the size of the left (3 ounces). Their capsules were markedly adherent and the surfaces showed numerous cicatricial indentations from old infarctions. On section the kidneys showed considerable disintegration from old infarctions. There was a minute calcified tubercle in the upper part of the right kidney. There were numerous large calcareous deposits in the mesentery, but beyond this there was nothing of interest in the abdomen.

In this hospital, where over 400 post-mortem examinations are performed every year, it is worthy of note that there is only one similar specimen of ball-thrombus in the Pathological Museum. It is about the size of a walnut, but its surface is rough and corrugated and its wall not more than one-sixteenth of an inch thick. It was obtained from the right ventricle of a man, aged 64 years.

Glasgow.

TWO REMARKABLE CASES OF SUDDEN DEATH FROM UNSUSPECTED CARDIAC LESION.

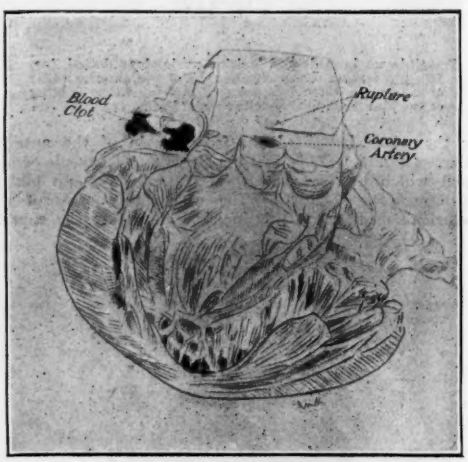
BY HUGH GALT, M.B., B.SC. GLASG., F.F.P.S. GLASG.,
PATHOLOGIST TO THE ROYAL INFIRMARY, GLASGOW.

APART from the intrinsic interest of the following two cases there is an added interest in the fact they occurred consecutively in the routine post-mortem work of the above institution.

CASE 1.—This man, a baker, aged 66 years, was admitted to the Royal Infirmary, Glasgow, on Dec. 29th, 1908, with a history of loss of appetite and flesh for the previous 18 months, and occasional vomiting for the past ten months. Shortly before admission there was swelling of the abdomen and lower limbs. There was a marked alcoholic history. The urine in hospital contained albumin and tube casts. He died quite suddenly and unexpectedly on Jan. 7th, 1909, his only complaint at the time being of moderate epigastric pain.

Necropsy.—The pericardial sac was distended with liquid and clotted blood, the clot forming a complete sheath about half an inch thick round the heart and vessels as far as the apex of the pericardium. The clot removed weighed 8½ ounces, while the liquid blood measured 12 ounces. The myocardium showed marked brown atrophy. The left ventricle was moderately hypertrophied. The mitral and tricuspid valves appeared healthy and competent. The aortic and pulmonary valves were competent to the water test, but both vessels were distinctly though not greatly dilated. The wall of the aortic arch was very thin and soft, but no naked-eye degenerative changes were observable. The wall was elastic, but the finger could be pushed through it with comparative ease. Round the root of the aorta and pulmonary artery was a firm mass of blood clot. The coronary arteries were dilated and their lumina were quite free, but they showed throughout numerous soft yellowish patches projecting slightly internally. Just above the right coronary, and extending horizontally for a distance of one and a quarter inches, was a tear through its inner and middle coats. From this the blood had escaped and dissected a path for a short distance under the adventitia at this part and finally had burst through the adventitia near the origin of the left coronary artery (see Fig. 1). In the thoracic and abdominal aorta,

FIG. 1.



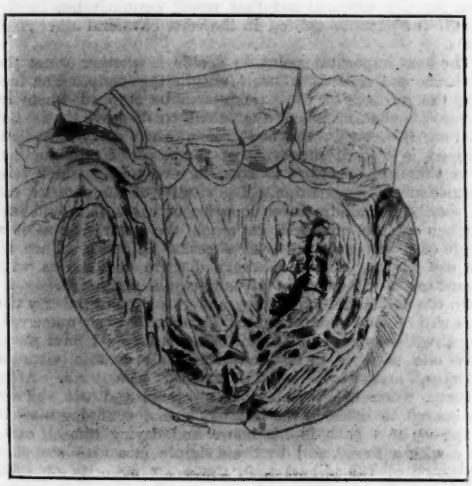
especially the latter, there was considerable soft atheromatous deposit, but no calcareous particles or atheromatous ulceration. The stomach was the seat of a soft carcinoma involving almost the entire organ but leaving the œsophageal and pyloric openings unaffected. The ileum showed a Meckel's diverticulum. The kidneys were granular, normal in weight, with adherent capsules and some apparent atrophy of the cortex. The other organs appeared healthy. The arteries throughout were thin-walled, but less so in degree than the aorta. Sections of the aortic wall near the site of rupture showed a remarkable paucity of elastic fibres, but neither fatty nor calcareous deposit.

CASE 2.—The patient was a storeman, aged 65 years, who died a few hours after admission on Jan. 6th last. For the past two years he had complained of pain in the epigastric region, but until Jan. 3rd, three days before admission, there had never been vomiting, and he was at work regularly, with the exception of occasional spells of alcoholic excess. There was a long history of alcoholic indulgence. From Jan. 3rd there had been occasional attacks of vomiting, the vomit on each occasion containing small quantities of fresh blood. He was at work as usual on Jan. 6th, when about mid-day he collapsed and complained of severe epigastric pain. This

vomiting continued almost without interruption until his death a few hours afterwards.

Necropsy.—The body was remarkably well developed. There was considerable excess of subcutaneous fat generally. The pericardium was healthy and there were no adhesions, but there was an area of recent ecchymosis over the middle part of the left coronary artery. Externally the myocardium appeared healthy, with the exception of a softened area round and including the area of ecchymosis described. All the valves of the heart appeared healthy and competent. There was a flattened recent but adherent thrombus in the right auricular appendage. There was much fatty deposit over the ventricles. The aorta was much dilated throughout and showed advanced patchy atheromatous degeneration at all parts with considerable calcareous deposit. Dissection of the left coronary artery showed its orifice quite free, but about half an inch distal to this, and after the origin of two branches, the vessel was completely blocked by a thrombus which extended from this point for nearly half an inch. The thrombus seemed to have originated from a hard calcareous patch at this portion of the vessel. Beyond the thrombus the artery was unobstructed, but here again it showed advanced calcareous change. The right coronary artery was free, but its lumen was distinctly narrowed from similar calcareous deposit. In the lower half of the interventricular septum there was extensive necrosis of the myocardium, in the centre of which was a large, irregular, gaping orifice which led directly into the right ventricular cavity, the opening being much larger on the left ventricular aspect. (See Fig. 2.) Almost the entire

FIG. 2.



lower half of the septum was of a yellowish-white colour from anæmic necrosis; to the touch this part was very soft, and it broke down on slight pressure. At all other parts the myocardium appeared quite healthy. The stomach showed a recent shallow ulcer involving the mucous membrane only. Apart from this the other organs of the body appeared healthy.

These cases are rare enough to be worth putting on record; while the only symptom complained of in both—viz., epigastric pain—is also worthy of note.

The photographs illustrating the cases here reproduced were taken by myself from sketches made from the organs shortly after the necropsies by my assistant, Dr. A. M. Kennedy.

Glasgow.

INVALID CHILDREN'S AID ASSOCIATION.—The annual meeting of this association will be held by kind permission of Lord and Lady Newlands at 16, Grosvenor-place, S.W., on Tuesday, May 25th, at 3 P.M. Field-Marshal Lord Grenfell will preside. Tickets of admission can be obtained on application to the secretary at 69, Denison House, Vauxhall Bridge-road, S.W.

BILHARZIA HÆMATOBIA AND CIRCUMCISION.

BY JAMES F. ALLEN, M.D., M.CH. R.U.I.
CONSULTING MEDICAL OFFICER TO THE NATAL GOVERNMENT RAILWAYS.

THE generally received view of the method of entrance into the body of the bilharzia is that it gains an entrance into the stomach through the water taken for drinking. But a careful observation of the condition of bilharziosis extending over many years has led me to be more convinced as I proceeded that in every instance the parasite gains access to the body while those affected are bathing, and in the great majority of instances, in Natal anyway, that invasion took place through the urethra alone. It is possible, and I think sometimes happens, that it also enters the rectum and intestinal canal by the anus, and it may enter the lungs by infested water being sniffed into those organs while bathing, though I have never met with such a case. But wherever it is found it has got to its final resting place directly from outside and has not reached it from the vascular system. There can be no doubt but that the parasite does enter the stomach in drinking water, but it appears pretty certain the gastric juice destroys it, and that therefore it does not penetrate the tissues of that organ, reach the great veins, and so travel to its final destination. It is difficult to understand how it could ever have been maintained that so great a parasite possessing such immense fecundity and so large an egg many times greater than a blood corpuscle, and with a very hard shell, could exist in the great veins and life be continued; not only life, but good health. In my long experience in Natal I have never met with a fatal case, but, on the contrary, many recoveries.

In this inquiry it is a matter of first importance to establish the mode by which the parasite does reach its destination, for once the way by which it gains an entry into the body is discovered some means may be devised of protection. Under the received view, if incorrect no advance can be made, and the gravity of that opinion being very great causes much mental uneasiness and in some instances material loss, for if it was the case the lives of those affected ought not to be assurable; but as a matter of fact under the real state of things the parasite does not affect longevity; and finally, it is always necessary to get at the truth. I propose therefore to make another attempt to establish the real mode of entry.

In those localities where the bilharzia is prevalent the invasion of the parasite is for the most part confined to those who have contracted it when children and is almost altogether found among males. Adult invasion, though occurring under certain conditions, to which I will presently refer, is comparatively rare. The children, and for the most part the adults, in whom it appears are almost invariably persons who are in the habit of bathing in infested streams. If therefore the population of a bilharzial district was divided into river bathers and non-river bathers it would be found that the great majority of river bathers had become invaded, and of those affected nearly all contracted the condition under the age of puberty and were males; thus, evidently habit, sex, and age are predisposing causes. In their bathing habits little boys of this country are much the same as elsewhere; they go during the warm weather frequently to the river, stay long in the water, and rarely dry themselves with towels when they come out, and they do not wear bathing drawers. The influence of sex is not as great as would appear from the preponderance of boys affected. I think boys are more susceptible, but even of that I am not sure, they certainly offer more facilities for the entry of the parasite. The real cause of the excessive number of boys affected is that they more frequently bathe in the open streams than girls and that they mostly discard the use of towels. Thus the parasites are able to cling to the parts of their bodies which facilitate invasion.

Age undoubtedly does influence invasion, the great majority of those affected being boys under the age of puberty. The bathing habits of the boys to some extent account for this; but it is mainly due to the ease with which the parasite can enter the urethra before the prepuce is retracted. There can be no doubt but that the prepuce plays a most important part in the entry of the parasite

into the urethra. During the act of bathing the sack formed by the prepuce becomes filled with water, and if the distoma enters with it it is obvious it would be guided almost directly to the mouth of the urethra by the prepuce and sustained until it effected an entry. It is also a fact that for some time after boys leave the water the prepuce has not quite emptied itself, and that it would protect anything beneath it from being removed or destroyed by friction with the clothes and also from the effects of drying. A parasite so placed would therefore have moisture, guidance, protection, and time, everything, in fact, to enable it to seize upon a position which suits it so admirably—advantages which parasites never fail to avail themselves of; and in this instance their subsequent history makes it certain that they take full advantage of the opportunity. In this manner, in most instances, the bilharzia enters the body.

It is also my experience that adults in whom the prepuce has not retracted, but has remained covering the glans penis, are, when exposed to the bilharzia by bathing in infested streams or water, most liable to invasion, and that those who have the prepuce retracted are not. In girls I think the labia offer nearly as good sheltering places, but their more frequent use of the towel and the shorter time they spend in the water in home bathing give them the greater immunity from invasion they seem to possess, and their escape points out the simple method by which boys may also be protected. It is protracted bathing and the impossibility of drying the glans penis on account of the prepuce which make boys so susceptible. The history of the condition as presented by its symptoms also points conclusively to urethral entry. The first marked symptom of invasion is the passage of a little blood, sometimes appearing as a urethral discharge unconnected with micturition; with this there may be some irritation of the passage but rarely pain. There is also hæmaturia: that is after passing urine apparently free from blood some bloody urine is discharged towards the finish, and a few drops of almost pure blood at the end. If at this stage a catheter is inserted it will be found when the point of the instrument gets to the membranous portion of the urethra an obstruction to its further progress will be met with, which often makes it very difficult to pass a catheter, and any attempt to do so causes much bloody discharge after the instrument is withdrawn. Here, then, is the first colony established by the distoma. Like all parasites the bilharzia chooses a position where it is protected and it can get most freely all the nourishment it requires; in the membranous portion of the urethra it finds security, steadiness, and sufficient vascularity which no doubt determines its selection. I have never found the parasite much lower down. It is not often that urethral invasion alone is met with; though there are many such cases they do not come to the notice of the medical man.

The question now arises, Does the parasite migrate from the urethra after it has fixed itself there? I do not think it does. Colonies higher up the urinary tract are, I believe, always due to further invasion. This conclusion I have come to from the fact that in those cases of urethral invasion alone, where the further entry of the parasites has been checked, no symptoms of colonies higher up have occurred and these signs are so definite that they could not be overlooked. But if exposure to invasion continues very soon it will become apparent that the bladder and ureters are occupied; when that takes place visibly bloody urine is frequently voided; that is, all the urine is bloody, which is never the case in urethral occupation alone. In the latter case the urine does contain blood, but it must be sought for with a microscope. The visible blood follows apparently clear urine. When the bladder is occupied the quantity of blood is greater, and it is thoroughly mixed with the urine, though sometimes almost clear urine may be passed; and there are also symptoms of irritation of the bladder, which are absent in urethral occupation. So that it is easy to discriminate between the two. As invasion passes higher up and the ureters become affected the urine is more often visibly bloody, but that would alone hardly distinguish the condition from bladder occupation, but that a new set of symptoms arise which are never found in either of the first two stages. The sufferer in the third stage—that of ureter occupation—for the first time becomes subject to attacks of nephritic colic, often of a very severe character, simulating the violent colic attending the passage of a calculus through the ureter, but in the case of the parasite, only due to spasm of that tube, caused by irritation at the point where the colonies exist, the result most frequently of some change in the urine. It is also probably in a measure the result of shaping and stretching due to muscular exertion. In boys these attacks almost always follow such games as football and cricket, or after ordinary running, riding, or swimming, &c. Probably excessive perspiration on such occasions makes the urine scanty, stronger, and irritating; sometimes over indulgence in food will have the same effect. That the pain is caused by spasm alone is shown by the fact that it is specially and completely relieved by an injection of morphine and copious watery drinks.

Thus there are three well-marked stages of the invasion, at any of which the parasite can be stopped if further invasion per urethram can be checked, as it can be either by change of residence or precautions directed to keeping the parasite from entering the urethra. Indeed, by the symptoms we can follow the invasion upwards, almost as clearly as if we were watching the progress of the parasite through a transparent medium. The occupation appears to be from without inwards and not from the kidneys downwards. Had the invasion taken place by drinking water through the stomach, and had the parasite penetrated the tissues of that organ and so gained access to the great veins and thus reached the urinary tract, the order in which the occupation occurred would not invariably be, as it is, from the urethra to the kidneys—some variation would be certain to occur. Indeed, the reverse order, from the kidneys to the urethra, would be much more likely. Very suggestive of entry by the urethra as the foregoing is, more convincing still is the fact that the invasion can be stopped at any of its stages by means directed to exclude the parasite from entering the urethra, and that would certainly not be the case if the parasite existed in the vena cava and other great veins.

The next important point to decide is whether or not the bilharzia can reproduce itself within the body. The fact that the advance of the parasite can be stopped when the invasion is checked is alone sufficient to disprove that. But its long life within the body, even when entry has been stopped, is in itself suggestive of the power of reproduction. It is therefore necessary to consider everything which tells against such a supposition. The vitality of the parasite can be watched, extending over a series of cases, if a sufficient number can be observed, in much the same way as if a single case was examined over a period of years. Then by the use of the microscope very definite conclusions with regard to the vigour of the parasite can be arrived at.

On the first invasion of a boy under the age of puberty the eggs will be seen under the microscope to be very numerous, large, with strong shells, well-marked spike—I have never seen one with a hook—and nearly all contain vigorous embryos, and there is also marked hæmaturia. After puberty, when the prepuce has retracted and the sufferer has ceased to bathe in the infested rivers, confining himself to the use of a bath in his house and drying himself carefully with a towel, and by these simple measures stopping the entry of the bilharzia, in the great majority of such cases invasion ceases, and the parasites begin to show signs of deterioration. The acute hæmaturia begins to abate, and as time goes on it is necessary always to use the microscope to find any trace of blood. A gradual change is taking place in the production and character of the eggs. They become far less numerous, diminish in size, lose the spike, have thinner shells, and do not often contain embryos. But there are other cases, unfortunately numerous enough, where the prepuce after puberty still covers the glans penis, and the habit of bathing in infested rivers is continued, but the use of a towel quite ignored. In such cases invasion still continues, and if the urine is examined, say after ten years' duration of the invasion, when the host being 20 years of age, it will be found that among the smaller eggs, evidently the product of parasites long in the urinary passages, there will also be the large strong-shelled eggs of the new arrivals. Anyone familiar with the examination of bilharzial urine under the microscope can easily distinguish the three conditions of occupation. The first, of active invasion, with all the parasites vigorous and the eggs numerous and strong; the second, in which invasion has stopped and gradual deterioration is taking place, indicated by the lessening number, size, condition, and vitality of the eggs; and the third, where invasion still

continues after years of occupation, eggs showing deterioration will be present, together with those of vigorous parasites. In those cases where invasion has been stopped and the parasites are dying, the irritation caused by their presence ceases long before the bilharzia wholly disappear. In the majority of such instances the host is quite unaware that the parasite still clings to him and is much surprised to hear that its eggs can be found in his urine.

The embryo itself does not appear to be capable of completing its development in the human body. It is not often seen in the urine free from the egg; it dies too quickly in that liquid to admit of its being easily found. To get the embryo, an egg in which one is seen moving must be selected. The shell is then broken by careful pressure on the covering glass with a strong needle and the embryo will gradually protrude itself from the fracture; if the opening in the shell is small it elongates itself until it is free, when it quickly regains its circular shape. It presents the appearance of a small ball, covered with villi. When it first leaves the shell it swims about freely and briskly, actively moving its villi; but in a few minutes even under the most favourable conditions of heat and moisture it becomes stationary, moves its villi for a little, and dies. It does not seem to possess any power of attaching itself to the tissues or of penetrating them. Altogether it seems very unsuited to its environment. If it does fasten itself to the tissues it must be quick about it, for it dies in a few minutes in urine, and it certainly will not develop in it, nor can it do so in ordinary river water; it evidently requires some host other than the human body to enable it to develop into the adult distoma.

To establish the fact that the parasite cannot develop within the body adds immensely to the importance of the discovery that it can be prevented from entering it. If it could attain maturity there, as far as the afflicted were concerned, whether or not it could be excluded mattered but little, as they would have within them sufficient to make their case hopeless. But if invasion can be stopped, and if development in the body is not possible, those afflicted with bilharzia may be easy in their minds. It therefore seemed to me most desirable, if possible by some direct method, to make the fact clear that development within the body was impossible. I was fully convinced by the foregoing that it was not, but still I wanted some direct proof. I therefore determined to experiment upon someone who was well acquainted with the condition and would be willing for a consideration to run the small risk of invasion. Such a man I found among the Indian attendants at Grey's Hospital in this town. On three occasions I injected into this man's bladder many eggs of the parasite containing vigorous embryos, and I satisfied myself that he retained these eggs for several hours, but the result was absolutely negative. The man did not become affected with the bilharzia and I had him at the hospital for some years afterwards and he left free from the parasite. This experiment, taken with the indirect evidence I have produced, seems to me quite conclusive. In 1887 I reported to the corporation of this town on the local prevalence of hæmaturia, its origin, cause, and effects. At that time I took a much more serious view of the condition than longer experience has led me to form. In that report I pointed out the important function the prepuce performed in assisting the parasite to enter the urethra. I will quote the final paragraph of that report:—

> There is an obvious means of protection, and one which must have been known in ages long past—that is, circumcision. It is very probable that in ancient Egypt the presence of this little fluke (bilharzia hæmatobium) in the waters of the Nile suggested the adoption of the operation and that the Jews, who have faithfully preserved it, adopted the custom and carried it with them when they left Egypt, and that gradually the cause of its origin became forgotten, and it advanced from being a sanitary precaution to a religious rite. In other parts of Africa where the fluke exists circumcision is, or has been, practised: at the present time in our own neighbourhood, among the Basutos, and at one time almost within the memory of living men among the Zulus. If these and other peoples of the Abantu race really did migrate south from the valley of the Nile, they like the Jews, carried the custom with them. But wherever it was instituted, whether in the valley of the Nile or among the hills of South-Eastern Africa, it is extremely likely it was originated as a protection against this fluke, and it will have to be practised again if the European, or indeed any, race is to maintain its normal vigour in the infested countries.

A short time after that report was published a correspondent sent me some very interesting information. He stated that beyond doubt circumcision was practised in Egypt from time so remote that there is no record of its origin, but that sculptures exist dating 2000 years before the period of the captivity of the Israelites on which prisoners of war are depicted in the act of being circumcised, the operation being clearly delineated with a heap of prepuces beneath the victims, and that there is also a sculpture showing the god Ra undergoing the operation. The practice even at that early date may have become a religious rite, but it is more than possible it was not and that its protective influence was well understood. The fact that prisoners of war were circumcised wholesale on their arrival in Egypt seems to point in that direction. These people would occupy a servile position and would have to work in and about the Nile, and it is quite certain had they not been circumcised the greater number would hav become invaded by the bilharzia, which would materiall reduce their value as slaves. A man who gets thoroughly occupied by that parasite, and in whom the invasion continues unchecked, cannot do hard work, and it is also certain that after circumcision a very large proportion would escape, and that if they were instructed still further to protect themselves by wearing a loin-cloth while in the water and drying themselves when they came out, none would have become invaded, and the people who could invent circumcision as a protection must have known something of the cause of the hæmaturia and would be likely to adopt such further simple measures to make immunity complete.

What can be more likely than that this operation was performed on the Israelites 2000 years later than the date of the sculptures, for a like purpose with the full knowledge of its beneficent purpose. The glimpse of the Israelites in Egypt we get in the Bible shows that they were in a servile condition there, and they would have had to submit to the customs of the country. Herodotus says that at his time the Egyptians were remarkable among all other races of the world by the practice of this custom, and that the Syrians (Israelites) had adopted the operation from them. He also mentions that the Ethiopians had the same custom, but whether they learnt it from the Egyptians or the Egyptians from them he was not sure. He states no reason for this strange practice, but it was remarkable enough to be mentioned. And it may at that time even in Egypt have become conventional, the knowledge of its wise protective influence being completely lost. That the god Ra, the sun-god, should be depicted as being circumcised was surely symbolical of some great benefit which the operation would bring on all men in his land of Egypt. Perhaps, now that I have suggested the origin and use of this peculiar rite, Egyptologists may throw some further light on the subject.

It seems to me that the practice of circumcision should be enforced in every country where the bilharzia is prevalent. But that being a counsel of perfection, I need not hope ever to see it carried out. In Ancient Egypt, as in Natal to-day, I have no doubt it was found that girls escaped invasion. We are told in the second chapter of Exodus that "the daughter of Pharaoh came down to wash (herself) at the river." If that means she bathed in the Nile, it is quite certain that she must have dried herself thoroughly with a towel when she came out, or she may have worn some close-fitting protective garment, otherwise she ran great risk of being invaded by the parasite.

In this country anyway, if girls bathe in infested streams, and do not wear some kind of bathing gown, and also fail to dry themselves with a towel when they leave the water, as little girls sometimes do, they become invaded by the bilharzia. But if they bath in their houses in water from the same source, and dry themselves with a towel, they escape the parasite. As this is the general practice with nearly all girls, and they have almost complete immunity, they do not need any further protection. Practically it is only boys who need to be warned to guard themselves against the entry of the parasite. And as I cannot hope that the method by circumcision will be generally adopted, I must be content with recommending the less classical means: by wearing close-woven drawers that fit tight round the waist and round the thighs and are not open elsewhere, and drying the body well when they leave the water especially, and as closely as possible, about the orifice of the urethra. These simple directions will save many boys and adults whose physical condition makes them very liable to invasion and will give absolute immunity to those who, fortunately for themselves, may be circumcised or resemble those that have been. And to those who may be suffering

from the parasite, though I cannot recommend them any sovereign remedy, I can truly bid them not to be disheartened. Their condition is not such as they have been led to believe, and each day that they protect themselves from invasion brings them nearer the time in which they will almost forget that they were ever affected by the bilharzia hæmatobia.

Pietermaritzburg.

RUPTURE OF THE PREGNANT UTERUS FROM CONTRECOUP IN A WOMAN NOT IN LABOUR; OPERATION; RECOVERY.

BY JOHN PHILLIPS, M.A., M.D. CANTAB., F.R.C.P. LOND.,

PROFESSOR OF OBSTETRIC MEDICINE AND GYNÆCOLOGY IN KING'S COLLEGE; OBSTETRIC PHYSICIAN AND GYNÆCOLOGIST, KING'S COLLEGE HOSPITAL; EXAMINER IN MIDWIFERY, LONDON UNIVERSITY AND THE CONJOINT BOARD.

THE following case appeared to me of sufficient interest both from the rarity of the accident and the concomitant symptoms to warrant publication.

On March 8th, 1908, the patient, a healthy VI.-para, when seven months advanced in pregnancy, fell from a first-floor window, from 12 to 14 feet high, on to her buttocks; she remembered striking on an oaken edging to the garden path. She was seen by Dr. P. N. Randall of Bromley (to whom I am much indebted for the following notes) about an hour and a half after the accident. Her pulse was fairly good; she was conscious, but in great pain in the right side of her abdomen. Fœtal movements had been felt immediately after the accident but not since. There was no definite paralysis of the legs but she was unable to move them in any way and it was necessary to draw off the urine by catheter twice daily for the 16 days subsequent to the accident. Three days after the accident (the 11th) she developed acute bronchitis, and eight days after (on the 16th) a little blood escaped from the vagina for the first time and gradually became more free.

The patient was seen in consultation on March 18th, ten days after the accident. She was a spare brunette and looked ill; her respirations seemed quicker than normal, and her pulse was feeble (104). There were loose râles heard over both lungs. On inspection of the abdomen it presented none of the features of a seven months fœtation, and coils of intestines were very distinctly seen through the thin abdominal walls. There was no distension and no tenderness on pressure. No fœtal heart sounds could be heard, but a distinct uterine souffle could be made out to the left of the median line in the lower hypogastrium. The areolæ were stained but the breasts were not active. On palpation of the abdomen there was an absence of the usual uterine tumour halfway between the navel and the epigastric notch. Extending from the lower edge of the liver to the right inguinal region there was an irregular, somewhat ill-defined swelling made out. Some prominences were noticeable upon its surface. A fœtus could be palpated with its face looking to the left. In the lower hypogastrium and in the median line could be felt a soft, elastic, globular swelling, reaching halfway between the symphysis and the navel; this gave the sensation to the touch of a uterus recently emptied of its afterbirth, or the uterus of a far-advanced extra-uterine pregnancy. Per vaginam, a slight mucous discharge with a little bloodstain mixed with it was going on; the cervix was soft and admitted the finger to the internal os uteri. The swelling felt in the lower hypogastrium was clearly the uterus; the mass in the right groin could not be clearly defined; the left loin and fornix appeared to be quite free and healthy. Extending from the uterus, across to the swelling in the right loin, was an indefinite mass which appeared to have a slight amount of restraining action on the mobility of the uterus.

It was considered that the case might be: (1) one of ruptured uterus with the fœtus lying among the intestines on the right side; (2) the possibility of a primary abdominal extra-uterine fœtation; or (3) pregnancy in a bi-cornuate uterus. It was considered that the case would possibly be elucidated by the passage of the sound; this was found to pass easily into the uterus and considerably beyond the fundus; its point could be felt immediately behind the thin abdominal wall about three inches above the umbilicus; it appeared to pass in front of the fundus uteri.

The patient was anæsthetised and the finger inserted into the cervix. After a little upward pressure, about two inches above the internal os uteri, a ragged, longitudinal opening was felt and a lobe of separated placenta impacted in it; no liquor amnii or fœtal parts could be made out *in utero*, but in the right inguinal region what appeared to be a leg could be palpated by the finger in the uterine cavity, showing clearly that it was outside the uterine wall. Diagnosis was therefore made of ruptured uterus, probably of the anterior wall, the dead fœtus lying in the right side of the abdomen. The abdomen was opened in the median line. On reaching the subperitoneal fat it was found to be yellow and parchment-like, and the peritoneum itself very soft and breaking down on touching. On opening the cavity a considerable amount of dark blood-stained fluid escaped and the uterus was seen immediately beneath the incision. An irregular longitudinal opening, with retracted edges, was noted at the lower end of the incision wound; on the right a female fœtus with the skin macerated was seen lying among the intestines; the great omentum was deeply stained a brown colour. On passing the hand into the peritoneal cavity the fœtus was felt lying on its left side, with the head in the epigastrium, the face towards the anterior abdominal wall, its right shoulder under the liver, and the buttocks and legs in the right iliac fossa, the head being somewhat moulded by the cleft in the liver. The placenta was lying across the front of the uterus, a small portion of it occupying the laceration already spoken of in the anterior wall of the uterus; this was obviously what was felt interfering with the mobility of the uterus. It was quickly removed, the uterine cavity carefully explored, and some small pieces of adherent placenta removed. The fœtus was lifted out through the abdominal wound, some large blood-clots were taken out with sponges, and the uterus, in a fairly good state of contraction and retraction, was brought to the surface. The sloughing edges of the uterine wound were pared carefully and brought together by two layers of superimposed silk stitches. The parietal peritoneum was then stitched to the sides of the uterine scar (abdominal suspension) and gauze drainage was applied. The abdominal wound was then closed. During the operation nearly three pints of saline fluid were injected into the cellular tissues of both breasts and the peritoneal cavity. The condition of the patient at the end of the operation was fairly satisfactory and she was got back to bed, with a pulse of 110 per minute, of a feeble but regular character. The fœtus showed no abnormalities of development; it weighed 3 pounds 13 ounces and the skin was peeling.

The post-operative history was uneventful. The bronchitis slowly cleared up, the patient's temperature remained below 100° F., and her pulse gradually descended to normal. I saw her again on Jan. 13th last (about ten months after the operation). I then found the scar quite healthy, the uterus a little bulky but freely mobile, anteflexed and anteverted, and the patient's only complaint was that whereas before the accident she had had painless menstruation she now suffered from colicky pains in the lower hypogastrium during the whole time of the flow.

A few points in the history of this case seem worthy of attention. It may be noted that a woman with a ruptured uterus for 10 days, the fœtus, blood, liquor amnii, and the larger portion of the placenta lying in the peritoneal cavity, showed no indications of acute peritonitis or any general symptoms of importance. It is possible that the impaction of the soft placenta in the longitudinal rent in the anterior wall may have in some way prevented the entry of germs into the peritoneal cavity and so saved the patient an acute illness as well as have arrested hæmorrhage. The position of the rent was an unusual one and must have been caused by the reflected impact of the child's body against the anterior uterine wall. I have been unable among more recent literature on the subject to find any case of a similar nature. The ventro-suspension was not in itself necessary, but it was thought desirable to cut off the laceration from the general peritoneal cavity. The dysmenorrhœa is probably due to interference with the bipolar action of the uterus during menstruation.

Brook-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Cases.—Acute Infective Gangrene of the Extremities.

A MEETING of this section was held on April 30th, Dr. A. E. GARROD being in the chair.

Dr. G. A. SUTHERLAND showed three Mongolian Imbeciles. The first was a boy, aged five years and nine months, with the following characteristics: small head, small palpebral fissure with the axis sloping inwards and downwards, depressed bridge of the nose and epicanthus, the openings of the nares directed upwards, the mouth wide open, the tongue large with some transverse fissuring, horizontal nystagmus and head-shaking, and little finger and thumb shortened, with slight curving of the former. Nasal obstruction was pronounced until operation for adenoids was done. The boy was very imitative, active, and required constant supervision. His habits were clean. Mental development was progressing but was still very backward. The second was a female patient, aged six years. She was active, imitative, and fond of music, required constant supervision, and could not form sentences yet. Her mental development was progressing slowly. The third was a boy, aged four years, who could say simple words and learned to walk at the age of two and a half years. The left hand shows shortening of the thumb and complete webbing of the third, fourth, and fifth digits. He was very fond of music and imitative and active in his habits. His mental development progressed very slowly. Dr. Sutherland said that he did not think any light would be thrown on the condition of Mongolian imbecility until they knew the cause of the disease. Treatment by thyroid was not successful and if a case improved under that treatment in all probability it was not a case of Mongolism. Prognosis of life in these cases was bad, most of them dying under two years of age.

Dr. H. MORLEY FLETCHER showed three cases of Mongolism, two of the cases being five years of age, the third 6½ years of age. He pointed out that the skin of the hand in such cases showed a certain peculiar roughness or harshness.

Dr. F. J. POYNTON showed four Mongolian Imbeciles. The first was a girl, aged four years. She was brought to Great Ormond-street Hospital when aged six months, and since then—namely, for three and a half years—had been treated with small repeated doses of thyroid. She talked when aged two years and ten months. She was passionate, fairly clean, and could say a few words, and was fond of musical sounds. The second was a boy, aged nine years. He had always been noticed to be backward. He took the bottle until three years of age, and for many months, instead of attempting to walk, propelled himself about in tailor fashion, eventually walking between three and four years of age. He was double-jointed. He had been treated since September, 1908, with small doses of thyroid. The degree of intelligence was small; he could not talk consecutively, nor read, nor learn, but he could take a simple message. He was usually clean and could amuse himself. Since thyroid treatment was started friends and relations considered him "brighter," but it was difficult to discover any real improvement. The third was a female, aged three years, who had been treated for over a year with thyroid and during that time had made progress. She commenced to walk when aged two and a quarter years and could now make a certain amount of progress on her feet. The general aspect was of the usual type. The child was fond of musical sounds and understood, though slowly, a good deal that was said to her. She was unable to talk but was now beginning to make efforts. The fourth was a female, aged four years, who had been treated since the age of ten months with small continuous doses of thyroid. This characteristic Mongolian imbecile was now beginning to talk and was fairly clean. She did not appear to have made any real advance over other cases which had not had any thyroid treatment. Dr. Poynton said that the object of showing the group of cases was to raise the point as to the value, if any, of thyroid treatment in the condition of Mongolian deficiency. His four cases were in themselves of the usual type, the oldest being of a comparatively mild degree. They were not related to one another. 12 cases had been treated for prolonged periods with thyroid, but the results had not been encouraging. Poor circulation and severe chilblains were somewhat improved by this remedy, and it would appear that these cases were rather brighter and more responsive after commencing the treatment. There did not seem to be any specific action on the underlying constitutional deficiency. In his experience considerable doses of thyroid soon induced in Mongolian imbeciles signs of excitement and disturbance of health as a direct result, and for that reason small doses only had been given for prolonged periods, such, for example, as one grain of the powdered gland twice a day for a child aged three years. In his series of cases some had been first born, some last born, and others in the middle of a family. Some mothers had been young, some old, and some neither young nor old.

Dr. F. S. LANGMEAD showed Two Mongolian Imbeciles. The first was a boy, aged one year and seven months, with congenital morbus cordis, as evidenced by a loud systolic bruit, and an accessory auricle on the right side. The second was a girl, aged three years. At two years of age she could just sit and crawl and now was beginning to walk with help. There was a congenital lesion of the heart, as shown by an increase of the cardiac dulness to the right, and an evident, but slight, murmur in the pulmonary area.

Dr. LEONARD GUTHRIE showed Two Mongolian Imbeciles. One was a fat, sturdy boy, aged five years, of typical Mongolian aspect. He had extraordinary powers of imitation, mimicking all the technique of massage, feeling pulses, listening to chests with the stethoscope, simulating the walk of a hemiplegic patient, and pretending to carry on a conversation at the telephone. At the end of six months' stay in hospital he had considerably improved in intellect and manners. The other was a boy, aged eight years, with signs of cretinism that had improved under thyroid treatment. Dr. Guthrie considered that thyroid treatment was absolutely useless in the ordinary cases of Mongolism unless the patient also exhibited signs of cretinism.—Dr. G. E. SHUTTLEWORTH said that thyroid treatment did not improve patients suffering from Mongolism. In the better-class patients treated in favourable circumstances the results of careful training were not so discouraging as was generally thought. It was, however, by imitation that these patients succeeded in accomplishing any work, and the period arrived when imitation could not carry them further in the active work of the world, through lack of originality and initiation. With regard to the mortality in this disease, the patients were exceedingly prone to die from tubercle and comparatively few lived to the age of puberty.

Mr. J. JACKSON CLARKE showed six cases of Successful Treatment of the Congenital Dislocation of the Hip by the Manipulative Method, and Mr. V. WARREN LOW also showed a similar successful case.

Mr. JAMES SHERREN showed a case six years after the performance of Omentopexy for Ascites due to Cirrhosis of the Liver. The patient was a woman, aged 34 years, who was admitted into the London Hospital in April, 1903. Her abdomen was then distended with fluid, the liver could just be felt below the costal margin, and the spleen was markedly enlarged, reaching nearly to the umbilicus. There had not been any hæmatemesis or melæna, and she was not jaundiced. At the operation on April 28th, 1903, the abdomen was found to be filled with clear yellow fluid. The liver was firm and typical of the type of cirrhosis known as "alcoholic." The wound healed by first intention, and she left hospital free from ascites and feeling well on May 27th, 1903. She had been seen on several occasions since and had remained free from symptoms. Two years after operation she bore a healthy child. The splenic enlargement had gradually diminished.—Mr. C. GORDON WATSON said that he had seen many patients operated on for ascites due to cirrhosis of the liver, but in the majority of cases the result was a complete failure.—Dr. H. D. ROLLESTON pointed out that the operation should be performed when the patient was in good condition as regards nutrition, and it was only occasionally that they came across cases suitable for this treatment.

Mr. E. ARCHIBALD SMITH showed a case of Multiple Congenital Deformities in a boy two months old.

Dr. H. G. TURNEY showed a case of Trophœdema following Trauma. The patient was a male, aged 18 years. Six months ago he ran a nail into the inner border of his right foot and had not been able to work since. The slight injury soon healed, but ever since the accident the foot had been increased in size. The present condition was one of œdema of the right foot, which stopped abruptly at the ankle. The colour was normal, the skin was dry and coarse, and the nails were thickened. Movements were free and not painful. There was some general blunting of all forms of sensation (but particularly that of pain), not only over the foot but nearly up to the knee. The x ray examination was negative.

Dr. T. D. SAVILL and Dr. PHILIP GREEN showed a case of Sclerodermia associated with Angioneurotic Œdema. The patient was a female, aged 56 years. The skin of the hands, nose, forearms, and to some extent of the toes, was thickened and livid. There was no pitting on pressure. She could not use her hands to button her garments because of the mechanical difficulty of flexing and extending the joints. In the forearms the parts were becoming hide-bound owing to the thickening of the skin and subcutaneous tissue. Over the left clavicle was an area about 4 inches by 2 inches of smooth, shiny, thinned skin, such as that left by morphœa. The patient enjoyed fairly good health but had within the last few weeks developed a stiffness of the knee-joints having the characters of so-called rheumatism. She had had bilious attacks, starting in the early thirties, about once a week. Alternating with these she had attacks of swelling on various parts of the surface of the body. Both the bilious attacks and the swellings ceased about two years ago, at the age of 54 years, when the hands first began to be persistently affected. The cutaneous swellings had all the characters of angioneurotic œdema, sometimes preventing her swallowing and giving her an alarming feeling of suffocation. Her mother died at the age of 54 years from a sudden swelling of the face spreading to the throat and causing death within 24 hours. A daughter, aged 22 years, had had swellings in many different parts of the skin since the age of 12 years.

Mr. GORDON WATSON showed a case of Double Infantile Coxa Vara treated by subtrochanteric osteotomy. The patient was a girl, then aged 15 years, who was admitted to the Metropolitan Hospital in December, 1907, with a history of deformity of the hips and difficulty in walking since early childhood. She had then a waddling gait, lordosis, and swung the body from side to side like a case of congenital dislocation. The great trochanters were greatly elevated. Abduction was practically abolished but other movements at the hips were free, though limited. In dorsal decubitus the internal malleoli could only be separated 11 inches. At the present time, 16 months after operation, the legs could be abducted so that there was a distance of 36 inches between the malleoli and she walked well without waddling.

Mr. H. B. ROBINSON and Mr. W. H. BOWEN showed a case of Hereditary Transmission of Claw Hand and Foot in mother and child. The patient was a boy, aged one year, showing inherited claw-foot. His mother had a similar deformity of her feet and in addition had deformed hands. The child's grandmother and great-grandmother had similar deformities of the feet. A skiagram of the left foot showed the absence of the second metatarsal bone save for its proximal end. The cleft in the foot corresponded to the bony deficiency. The phalanges of the first metatarsal bone were present; those of the third and fourth bones were absent; and those of the fifth metatarsal bone were present, but the distal one of the two was turned outwards at right angles. The condition of the right foot was somewhat similar. On the right side the great toe tended to point in an outward direction. In some of the cases of the deformity this outward deviation of the great toe was very pronounced, and tended to meet the inwardly deflected little toe and produce the characteristic claw-foot.

Dr. A. M. GOSSAGE showed a case of Coarctation of the Aorta. The patient was a male, aged 16 years, who had always been rather short of breath, but had enjoyed fair health up to last October when he was attacked with right facial paralysis from which he had since partially recovered. On examination there was some serious dyspnœa and marked pulsation of the carotids. The heart was hypertrophied; the radial pulse was large with a sudden rise. There was pulsation in the second right interspace near the sternum where there was dulness on percussion. The superficial cardiac dulness reached the fourth rib and the right edge of the sternum. Systolic and diastolic murmurs could be heard over the aorta. Pulsation could not be felt in the abdominal aorta, iliacs, or femorals. There was a small artery passing down on the right side of the epigastrium from the lower ribs to the umbilicus, and a small artery could also be felt in each axilla, coursing down the sides of the thorax. Numerous small arteries passed at the back from the spine in the direction of the intercostal spaces under the skin. The aortic lesion was evidently congenital and was probably in the usual position just above the junction of the ductus arteriosus with the aorta.

Mr. W. FEDDE FEDDEN read a paper on six cases of Acute Infective Gangrene of the Extremities. He considered that infective gangrene might be produced by a great variety of definite organisms—namely, the bacillus aerogenes capsulatus, bacillus coli, bacillus pyocyaneus, *vide* Dudgeon and Sargent, streptococcus pyogenes, and staphylococcus aureus. It was a noteworthy fact that the bacillus of malignant œdema did not find a place in any of the six cases. The prognosis of cases due to bacillus aerogenes capsulatus was undoubtedly very much more favourable than in those due to streptococcal infections, whilst those due to staphylococci appeared to hold an intermediate position. The period between infection and the appearance of actual gangrene in the first group was almost constant—namely, from 30 to 36 hours—whereas in the group caused by streptococcus that period might be as short as an hour. The incubation period of the staphylococcal group was very variable, but might be prolonged to several days. The importance of early amputation was self-evident, and was so urgent that the diagnosis must be made on clinical data, as the time for bacteriological confirmation could not be afforded.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases.—Meningitis associated with the Leptothrix Bacillus.—School Life and Children's Vision.

A MEETING of this section was held on April 23rd, Mr. R. CLEMENT LUCAS being in the chair.

Mr. HUGH LETT showed: 1. Cystic Hygromata in a girl, aged 15 months, under the right arm, on the right elbow, and over the right scapula. The mass in the axilla was soft with irregular nodular areas. The skin over it was adherent and dimpled. There were no dilated veins or pulsation. 2. Multiple Masses under the Skin of the Thigh. The patient was a girl, aged six months. The swellings had been noticed since birth. On seeing the case three weeks ago the appearances had suggested lipomata, but one of the masses had now become softened and discoloured and there was phlyctenular ulceration of the cornea. The condition was therefore one of multiple tuberculous abscesses. 3. A Tumour of the Femur in a boy, aged 15 years. He had noticed a lump in the right thigh four years ago which had been growing slowly since. It causes the patient a little pain when the weather is damp. The urine contains a trace of albumin. 4. A case of Multiple Osteomata in a boy, aged four and a half years. He appeared to be normal until the age of 18 months, when his mother noticed lumps on his legs. Osteomata can be seen or felt at the ends of both tibæ and humeri, at the adductor tubercles of the femora, on the vertebral borders and spines of the scapulæ, at the outer end of the right clavicle, on the ribs at the junctions of the cartilages and bone, and symmetrical nodes on the skull. The boy was well except that he got tired very quickly. The tumours were roughly symmetrical.—Mr. LUCAS said he had but little doubt that the three small swellings in Case 2 were tuberculous skin abscesses. The fact that one had become discoloured since Mr. Lett saw it three weeks ago indicated the probable contents of the others—namely, sweet white pus. With regard to the tumour on the thigh, he thought that it was an ossifying enchondroma, usually known as exostosis. The photograph showed that the bony part was growing, and as it was single he would be inclined to remove it.

Mr. R. WARREN showed a specimen from a case of Congenital Stenosis of the Rectum, Colon, and part of the Ileum. The baby was three days old and had passed no motion since birth. The finger could be passed one to two

inches into the rectum, and a small tube of five-millimetre bore would pass three inches or more. A little gas came away but no meconium. An enterostomy was performed, but the child died. Post mortem the gut was stenosed but not blocked. Water could be passed both ways with a syringe.

Dr. F. PARKES WEBER showed a case of Ductus Arteriosus without Murmur. The child came under observation, aged two weeks, suffering from debility and cyanosis of variable degree. It could not take the breast properly. There was no murmur and no certain signs of valvular disease could be detected. The temperature was subnormal and the child was subject to respiratory spasms during which cyanosis was increased. There were 4,500,000 red corpuscles to the cubic millimetre of blood. The child died at six and a half weeks. The foramen ovale was not completely closed, admitting the passage of a pencil five millimetres in diameter. The ductus measured 15 millimetres in length and its channel was about five millimetres in diameter, being a little wider at its aortic end; the aorta was very slightly constricted where joined by the ductus. The lungs showed atelectatic patches in the upper lobes. The liver was slightly enlarged.—Dr. E. CAUTLEY asked Dr. WEBER whether he ascribed the cyanosis to the patent ductus or to the condition of the lungs. He thought himself that it was not due to patent ductus, because if there were mixing of the bloods there would be an excessive number of red cells which was not the case.—Dr. WEBER thought that the atelectatic patches had a share in producing the clinical condition.

Dr. A. J. JEX-BLAKE showed a case of Extreme Deformity of the Chest with Fibrosis of the Left Lung. The patient had always been weakly. There was a history of consumption on the father's side of the family. At the age of seven years the patient had bronchitis and pneumonia and three months later was admitted to hospital with an abscess over a left lower rib which was found to communicate with the pleura. Two operations were done to let out pus. Three months later the whole left chest was flattened and dull with tubular breath sounds. The fingers showed clubbing. There was a copious discharge from the tube and from a sinus close to the sternum. Two further operations had been done. He had had a chronic discharge on and off from one or other of the sinuses in the chest ever since. The patient showed extreme deformity and collapse of the left chest causing scoliosis and much limitation of the movements of the spine. The heart was displaced, the right lung was emphysematous, and the fingers were cyanosed and clubbed. Dr. Jex-Blake asked whether it was now too late to institute expansion of the lung, as there had been none for 4½ years. Were breathing exercises or an operation such as decapsulation of the lung likely to do good?—Dr. E. I. SPRIGGS, Mr. LUCAS, Mr. WARREN, and Dr. G. PERNET discussed the case.—Dr. JEX-BLAKE replied that the child suffered from bronchitis on admission, but at the present time was not bringing up any sputum. There was no family history of syphilis. The mother had eight living children; a ninth had died in infancy, but there were no miscarriages.

Dr. G. CARPENTER showed a case of Congenital Dilatation of the Colon. The child was a female, aged one month. Diarrhœa and vomiting began in the first week and ceased on March 28th. The bowels were then not opened until admitted to hospital on April 2nd. The abdomen was then enormously distended. Per rectum, thickening of the bowel could be felt, and offensive fluid fæces of fairly normal colour followed the withdrawal of the finger. Three days later, after treatment with enemas and aperients, normal motions were passed and the distension had disappeared. It then began to increase again but was relieved by turpentine and enemas. An x ray photograph was shown in which the colon, which had been injected with a solution of starch and bismuth, was obviously dilated, forming a U-shaped tube with the base of the U at the splenic flexure, the ascending and transverse colon forming one leg of the U and the remainder the other. He invited the surgeons to pass an opinion as to whether operation was advisable.—Dr. SPRIGGS thought that if the diagnosis was to rest on the skiagram shown it was on an insecure basis, especially when it was remembered that a solution of starch and bismuth had been injected into the colon under a constant pressure, and that unless the plate was pressed down on the colon there would be a considerable spreading of shadow. The darkness on the right side of the U was also contributed to by the liver.—Dr. CAUTLEY supported Dr. Spriggs. He thought that a child with congenital dilatation of the colon ought to have a larger abdomen than the present child seemed to have. There might have been a temporary attack of dilatation from acute intestinal dyspepsia, which had now passed off. He did not understand why the case was spoken of as congenital, because even if there was dilatation, according to Dr. Carpenter the child was normally healthy until it got its attack of abdominal distension. And if a solution of bismuth and starch were injected into a child's colon it would easily become dilated.—Mr. J. P. LOCKHART MUMMERY said the diagnosis could be cleared up by the use of the sigmoidoscope.—Dr. CARPENTER replied that he still thought the colon was dilated, basing his diagnosis on rectal and bimanual examination as well as on the x ray picture. There was no doubt about the thickening and what else could it be due to? He would be glad to afford an opportunity for examination by the sigmoidoscope.

Dr. CARPENTER showed a specimen from a case of Steeple Skull exhibited to the section in December last. The child was at that time five weeks old and died some little time after its exhibition. The specimen was the skull bisected in the median line.—Mr. LUCAS commented on the rarity of the condition, and Dr. CAUTLEY suggested that the specimen should be referred to an anatomist for report.—Dr. CARPENTER replied that he would not enter into a discussion of the skull before a full description had been written.

Mr. A. R. THOMPSON showed a case of Solution of Continuity of the Right Clavicle since birth. The mother had fallen down some two weeks before the birth of the child. No deformity was noticed at birth. The boy showed a right clavicle which had apparently been fractured, the two portions being connected by a false joint and forming an inverted V. Mr. Thompson thought the case was one of fracture, although such cases suggested the possibility of cleido-cranial dysostosis.—Mr. A. H. TUBBY said this condition first came under his notice two or three months ago in a child aged ten months. The labour had been a difficult one, the arms being behind the shoulders. On bringing the arms down a distinct crack was heard, and there was found to be a deformity of the clavicle similar to that in Mr. Thompson's case. He operated and found an ununited fracture with a false joint and wired the fragments together. He had seen a similar case in which, despite wiring, no true union took place, and feared that in Mr. Thompson's case there would be no true union even if the false joint were excised.—Dr. SPRIGGS agreed that there was a fracture of the clavicle and not cleido-cranial dysostosis. In most cases of congenital deformity of the clavicle of which he had seen photographs there was evidence of deficiency of the membrane bones. In a case, for instance, published by the late Mr. Walsham and in the photographs of Dr. Carpenter's cases there was evidence either of an unclosed fontanelle, a globular cranium, a high-arched palate, irregular teeth, or some deformity of the lower part of the sternum. The present case showed none of these. Again, in cleido-cranial dysostosis, although there was usually some irregular deformity of the clavicle on both sides, the fragments might be joined together by a loose joint, in which case the two parts fixed themselves in the same position as in this case. The case was an interesting one historically, because a number of cases of cleido-cranial dysostosis had been recorded as fractures even when the deformity was bilateral. Some anatomists, such as Paterson of Liverpool, thought that the clavicle might be developed in two parts.—Mr. LUCAS expressed his agreement with those who had spoken. He thought that operation should be undertaken.

Dr. SPRIGGS showed a case of Multiple Exostoses. The boy went to St. George's Hospital in 1902, aged five years, with a painful tumour in the upper end of the left tibia. At that time he showed several other small exostoses. Five years later, at the age of ten years, he went to the Victoria Hospital and then showed exostoses of the vertebral borders of the scapulæ, on the spine of the right scapula, at the insertion of the pectoralis major in the right humerus, at the lower end of both radii and ulnæ, on a left metatarsal, on the femora and tibiæ, and at the inner and outer ends of each clavicle. At that time he had a good deal of pain and could not dress without assistance. Muscular power was fair. At present (two years later) the bony tumours were definitely less marked. The case was

interesting as showing a few tumours at the age of five, more at the age of ten, and a diminution in their relative size since.

Dr. W. A. MILLIGAN read a paper on a case of Meningitis associated with the Leptothrix Bacillus. A child, aged four and a half months, was admitted to hospital with a history of a fall on the head three days previously. There were general rigidity, conjugate deviation of the eyes to right or left, with lateral nystagmus. Craniotabes was present as well as a bulging anterior fontanelle. The temperature was 101° F. and the pulse was 104. A milky fluid was withdrawn by lumbar puncture which contained an excess of polymorphonuclear leucocytes and a leptothrix bacillus, of which a photograph was shown. The organism was Gram-negative and no growth was obtained either on agar-agar or blood serum. The illness ran an acute course, the child having a varying temperature and dying on the fifth day after admission. A subdural meningitis was found post mortem, extending over both hemispheres, especially over the vertex in front. There was an extravasation of blood on the side of the skull on which the child had fallen. The meninges were congested. Examination of the pus revealed the presence of the diplococcus pneumoniæ. On opening the right ear, a small bead of pus welled up. A case of pyæmia and meningitis associated with a pathogenic leptothrix bacillus had been described by Ritchie and McDonald, who also spoke of terminal pneumococcal infection. McDonald had recorded five cases in which he found organisms similar to those described above in an epidemic of cerebro-spinal meningitis and had concluded that the leptothrix was not a contamination. Dr. Milligan thought that the presence of leptothrix was more easily explained as a secondary infection, as this bacillus does occur about the mouth and throat.—Dr. CAUTLEY said that the important point was whether the leptothrix was a cause of meningitis or a secondary infection. He had seen many cases of meningitis of that type but without the leptothrix bacillus. The clinical course seemed to point to a pneumococcal infection.

Mr. N. BISHOP HARMAN read a paper on the Effects of School Life upon the Vision of the Child. After reviewing previous statistics, he communicated the results of the examination of 1100 children, seen at the Belgrave Hospital and the Middlesex Hospital. In all cases the eyes were under the influence of atropine, the ointment of 1 per cent. having been used four times a day for a week. Of every 100 children with defective vision, over 71 had hypermetropia and less than 29 were myopic. These 100 children represented about 10 per cent. of the school children, and so the incidence of myopia amongst school children in London might be considered not to exceed 3 per cent. About 78 per cent. of the cases were girls. This Mr. Harman attributed to the girls having less outdoor exercise and not being in such a healthy condition, as well as to the fine needlework done in school by the girls. During the school age the incidence of hypermetropia increased, as might be expected from what was known of the growth of the crystalline lens. At the same time the curve of myopia rose upwards to the highest positions on the chart, and such a phenomenon as this led to the conclusion that the diminution of the hypermetropic astigmatism had been due to the transference of these cases to the myopic group. On the whole the condition of the eyes of London children was very fair, especially if they compared them with similar returns collected in Germany. The greater proportion of the cases of bad vision were due to natural conditions of the eye—that is, hypermetropia and hypermetropic astigmatism. New-born infants were always hypermetropic. The incidence of "manufactured" bad vision—myopia and its associated astigmatisms—formed between a quarter and a third of the whole of the cases. The evidence of the deterioration of astigmatic eyes indicated the desirability of a special oversight of these cases. Mr. Harman did not think that a healthy school life was harmful to the sight of the child population. In conclusion, Mr. Harman criticised adversely the paper on the Inheritance of Vision by Miss Amy Barrington and Professor Karl Pearson. Several points in his experience led him to different conclusions. Miss Barrington and Professor Pearson would lead us to suppose that the increase of myopia was due to fate and hopeless, but in practice it was found that the amelioration of school conditions and the relief of strain in ill-shaped eyes did stay the increase.—Mr. SYDNEY STEPHENSON congratulated Mr. Harman upon the clearness of his exposition. He agreed that it was futile to examine children's refractions unless the accommodation had been paralysed by atropine. Some years ago he examined 6000 eyes, under the Poor-law, in children ranging from 18 months to 18 years of age. In these he found myopia present in 6·68 per cent. That was not very different from Mr. Harman's figures when the different range of ages was considered. He agreed that among the poor children of this country myopia was not of serious frequency. In his own figures the females were almost twice as much subject to myopia as were the males. He agreed in ascribing this to their employment in indoor work and lack of healthy exercise.—Mr. E. CLARKE agreed with Mr. Harman and Mr. Stephenson on the great importance of insisting on the use of a cycloplegic. The statistics concerning the refraction of young people which were published without such were useless.

LIVERPOOL MEDICAL INSTITUTION.

Treatment of Tetanus.—Intra-spinal Tumour.—Meningococcic Meningitis in Children.

THE last meeting of the session of this society was held on April 29th, Mr. T. H. BICKERTON, the President, being in the chair.

Dr. J. LLOYD ROBERTS reported a case of Tetanus which had recovered under treatment with injections of carbolic acid and of antitetanic serum. The disease followed an injury to the hand from a circular saw. Symptoms appeared ten days after the accident, and treatment was commenced on the sixth day of the disease. On the fourth and fifth days the symptoms had rapidly become more severe, and on the sixth day there was marked trismus, &c. The patient received 10 cubic centimetres of serum every 12 hours, and 15 minims of a 4 per cent. solution of carbolic acid every three hours for one day, and subsequently every two hours. On the second day of treatment the disease appeared to be arrested, and the patient was well 20 days later. 26 injections of serum and 236 injections of carbolic acid were given. The favourable result was attributed to the carbolic acid rather than to the serum.

Dr. JOHN OWEN and Mr. D. DOUGLAS-CRAWFORD communicated a note on a case of Intra-spinal Tumour which they had had under their care. It was localised at the eighth dorsal segment and was successfully removed, the patient being shown at the meeting. They hoped to publish a full account of the case later.—Dr. W. B. WARRINGTON discussed the rarity of these cases and urged the importance of physicians having sufficient faith in their diagnosis to urge an operation.

Dr. N. P. MARSH and Dr. O. T. WILLIAMS communicated a paper on Meningococcic Meningitis in Children. They referred to the importance of lumbar puncture in the diagnosis of tuberculous meningitis from other types of the disease. In the last 14 cases of tuberculous meningitis they had recovered the tubercle bacillus from the cerebro-spinal fluid. Four cases of tuberculous meningitis with secondary meningococcic infection were described in detail. The use of Flexner's serum had reduced the mortality from between 70 and 80 per cent. to 29·6 per cent. In children under two years of age the mortality was 42·4 per cent. in 59 cases, and in these the higher mortality was amongst those not treated until the seventh day of the disease. The serum was described and its effect both on the organisms and the cytology of the fluid; being bactericidal and only slightly antitoxic the serum must be injected into the spinal canal. 14 cases of cerebro-spinal meningitis were considered. They varied in age from three months to four years, and seven recovered. Three cases treated in the first few days of illness all recovered. The amount of serum used in each case varied from 10 cubic centimetres up to 130 cubic centimetres, and the number of injections from one to five. In infants they advised small doses of from 10 to 15 cubic centimetres. Dr. Flexner confirmed this view. In older children they followed Dunn of Boston and gave 30 cubic centimetres on four successive days, the results upon symptoms and the fluid guiding their future procedure. They considered that this serum in early cases promised extremely good results and even in later cases it favoured the prognosis.—Dr. OWEN

referred to one case he had treated with the serum with satisfactory results.—Dr. A. G. GULLAN referred to two cases: in one the fluid was not typical nor was the diplococcus found. The patient recovered under treatment with Flexner's serum. The second case, a girl aged 18 years, had been ill a fortnight; after the first injection the patient passed into a state of coma and in spite of further lumbar punctures and injections died.—Dr. JOHN HAY referred to the occasional difficulty of differentiating in certain cases between acidosis and meningitis, and related a case illustrating the point.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A MEETING of this society was held on April 23rd, Dr. W. H. CHEETHAM being in the chair.

Mr. H. LITTLEWOOD showed the following cases: 1. A case of Malignant Pustule, with Recovery after Injection of Sclavo's Serum (without excision). The patient, a man, aged 41 years, noticed on April 2nd a "small pimple" on the right eyebrow. Two days later the forehead and eyelids were swollen. On admission on April 5th a central black slough of the size of a sixpenny-piece was present with two or three vesicles around it. There was considerable œdema. No general symptoms were evident. Anthrax bacilli were demonstrated. 40 cubic centimetres of Sclavo's serum were injected at once and 30 cubic centimetres on the following day. The temperature was normal after four days. All the œdema disappeared in a week, and a good recovery was made. 2. A Calculus removed from "Horseshoe" Kidney. Two other shadows on the skiagram proved to be calcified tuberculous glands in the mesentery. The skiagram showed a small shadow at the upper pole of the right kidney and one larger one in the region of the lower poles of both kidneys. On Feb. 22nd nephrotomy was performed on the right side. The kidney was found to be of the "horseshoe" variety. A stone in the upper part of the right kidney was found. Other shadows were not accounted for. On April 1st, after a further skiagram had been taken, the abdomen was opened in the mid-line. Two masses of calcified glands found in the mesentery were removed and recovery was uneventful.

Dr. T. CHURTON showed the following cases: 1. A case of Acute Myelitis of the Conus Medullaris, probably Syphilitic. The patient, a man, aged 28 years, experienced on March 10th a sudden weakness in the left leg but it lasted only a few hours. 14th: The patient passed urine freely at 10 A.M. but at 5 P.M. he was unable to do so. 15th: At 11 A.M. some urine dribbled away. Catheterism became necessary then and afterwards. 24th: On awaking, sensation was found to be lost below the left knee and motion to be lost from the hip to the toes. Sensation returned, as well as partial control of the bladder. One year ago a rash appeared on the trunk, the arms, and the legs; it lasted six weeks and was untreated. 2. A Temperature Chart from a case of Cerebral Hæmorrhage (Ventricular) which proved fatal in 16 hours, showing the differential rise on the paralysed side within three hours of the onset and becoming equal (101° F.) soon after somatic death.

Mr. J. F. DOBSON showed the following: 1. Three cases of Perforated Duodenal Ulcer, in which the Perforation was Sutured and Gastro-enterostomy was Performed. The first case was that of a male, aged 31 years, who was admitted to the Leeds Infirmary 24 hours after perforation. There was a large quantity of fluid in the abdomen. In the second case, that of a male, aged 29 years, perforation had occurred on the day before admission. In the third case, that of a male patient, perforation had occurred almost immediately after a mid-day meal and an operation was performed within eight hours. In all these cases drainage was effected through a tube into Douglas's pouch and another into the right kidney pouch. In the second case there was little extravasation around the perforation, but a large quantity of fluid in the pelvis. 2. A case of Rupture of the Liver. The patient was admitted to the Leeds Infirmary shortly after having been run over. He was not markedly collapsed, though there were some signs of fluid in the abdomen. On the following morning he was much worse and was clearly suffering from internal hæmorrhage; the abdomen was rigid, with shifting dulness. On opening the abdomen a large amount of blood escaped, and a rent was found at the back of the right lobe of the liver, which would admit the hand; on removing some clots free bleeding occurred. The hæmorrhage was stopped by firmly packing the rent with gauze. The packing was retained for a week and caused some suppuration.

Mr. A. L. WHITEHEAD showed (1) case in which vitreous degeneration had followed hæmorrhage into the anterior and posterior chambers, caused by a blow from a stone; and (2) a case in which a piece of steel was removed from the vitreous six months after entering the eyeball.

Mr. R. LAWFORD KNAGGS showed a case of Duodenal Fistula in which gastro-enterostomy and infolding of the pylorus were performed successfully. The patient was a female, aged 19 years, who had had abdominal symptoms from August, 1906, to January, 1907, when a local suppurative peritonitis was drained. In two months there were signs of duodenal fistula. In July posterior gastro-enterostomy was performed. The pylorus was pleated into a solid roll. In six weeks the fistula closed. In April, 1909, the sinus had quite healed.

Dr. CHURTON and Mr. LAWFORD KNAGGS showed a case in which there had been Symptoms of Gastric Ulcer and Œsophageal Obstruction. The patient, a female, aged 40 years, had had indigestion for 20 years. For the last 12 months pain had been coming on directly after food, and this was relieved by vomiting. The point of maximum tenderness was one and a half inches above the umbilicus. There was pain in the throat on swallowing as well as great wasting. On March 22nd the stomach and duodenum were explored but there was no sign of ulcer. Previously the stomach had been washed out (evidently it was the dilated œsophagus above the stricture—in which the stomach tube must have coiled up—that was washed out). After a temporary improvement vomiting returned (with large quantities of watery fluid). Being regarded as neurotic, an attempt was made to feed the patient by stomach-tube. It was recognised that this did not pass properly, nor did bougies, which came up bent at an angle. On March 26th a gastrostomy was done. Since this operation vomiting had ceased and the patient was rapidly improving in condition. A skiagram (bismuth) showed the dilated part of the œsophagus above a long narrow stricture or contraction. The condition was probably one of spasm, possibly associated with ulcer close to the cardiac orifice of the stomach.

Dr. A. G. BARRS with Mr. B. G. A. MOYNIHAN showed a case of Perforated Typhoid Ulcer occurring at the end of the second week. Treatment consisted of suture and drainage.

Dr. W. H. MAXWELL TELLING showed the following: 1. A case of Disseminated Sclerosis with Optic Neuritis. There had been typical symptoms of seven months' duration. One month after the onset the sight of the right eye failed rather suddenly. On examination five months later there were moderate optic neuritis with atrophic changes in the disc in this eye and very slight and doubtful neuritic changes in the left eye. The visual fields were diminished in both eyes. In the right there was a central scotoma to white and green, and by this eye red was not visible as red. 2. A woman of normal mentality, aged 24 years, with Adenoma Sebaceum, which had been present for 21 years. 3. Two cases of Molluscum Contagiosum. In one case the nodules were scattered over the body; the eruption had been present for 30 years. In the second case the first nodule appeared on the penis a fortnight after infection and was followed by a small crop adjacently.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on April 27th, Dr. F. J. Smith, Vice-President, being in the chair.—Mr. A. Douglas Cowburn read a paper on Some Aspects of the Legal Responsibility of Medical Men. The motive actuating every man assisting another in illness must be, he said, to heal, to relieve suffering, and to prolong life. If he intentionally used any means to shorten life he was guilty of murder. Moreover, although any person, whether qualified as a medical practitioner or not, who professed by way of occupation to deal with the life or health of His Majesty's subjects, was bound to possess competent skill to perform the task that he held himself out to perform, and was also under a duty to treat those under

his care with attention and assiduity, those correlative duties were more emphatically binding upon duly qualified medical practitioners than upon others. Any person, qualified or unqualified, who took upon himself the profession of a medical practitioner without being reasonably qualified for so doing, incurred not only that grave responsibility which attached to all persons who professed to special and peculiar knowledge of the treatment of the sick and the application of the remedial appliances and drugs, but became liable for criminal proceedings for manslaughter if by reason of ignorance, want of skill, or neglect, carelessness, rashness, or mismanagement the life of the sick subject was shortened. The registered practitioner was as liable as the unregistered. As to the civil liability of a medical practitioner, Mr. Cowburn said that in all cases of skilled or professional labour where a man publicly practised a profession he held himself out as being properly equipped for its due performance. He represented, and undertook, therefore, that he was possessed of the necessary and customary skill pertaining to that profession. There might be individuals in that profession who had a higher standard, but he undertook to bring to bear a fair, reasonable, and competent degree of skill. Every person who dealt with the life and health of any of His Majesty's subjects was liable for the want of expert diligence, the qualified man being an expert, the unqualified man putting himself into the position of an expert. In the case of one who did not assume to be a medical practitioner, evidence of gross ignorance would be required to render him liable to damages in a civil court, whereas in the case of a qualified practitioner the ratio would be such reasonable knowledge and skill usual amongst medical men. What constituted a reasonable degree of skill could not be defined. It was a question of fact to be determined by a jury in the light of the circumstances of each case. Mr. Cowburn then proceeded to discuss the various responsibilities of medical men. A medical man, he said, was usually responsible for the torts of his apprentice or assistant if the acts complained of were done under his directions, with his authority, and in the particular manner sanctioned by him, but not otherwise. Nor were medical men in a hospital responsible for the negligence of the nurses therein unless they were in close proximity to the patient at the time of the commission of the wrongful act and consequently able to prevent it. Speaking generally, no one could be held responsible for another's negligence unless the relationship of master and servant or of principal and agent existed, hence a qualified assistant or locum-tenent was himself responsible for any negligence proved against him; he did not involve his principal unless the principal had employed him knowing to be incapable though qualified. Turning specially to surgery, Mr. Cowburn said that the surgeon must possess that degree of skill and knowledge which was the common property of those who practised his art. That he should intelligently apply those principles which were deemed essential by the acknowledged leaders of the profession and employ a reasonable degree of care and skill. He was not liable for an error of judgment, even though such an error might cause the death of the patient, unless indeed it be so gross as to be inconsistent with reasonable skill, care, and diligence. Nor was he liable for the occurrence of certain accidents occurring after injuries and operations and which might be unavoidable, such as traumatic delirium, fat embolism, intoxication from fibrin ferments, or uncontrollable hæmorrhage. Provided he observed well-recognised principles, the selection of the methods to be employed might be left to his own discretion, and he was not bound to follow a specially planned method which had given apparently perfect results in the hands of other surgeons of repute. Could any legal code set bounds to the ever-advancing progress of science? Dealing with the relative responsibility of the surgeon and anæsthetist, Mr. Cowburn said that there did not appear to be any recorded case in England in which either criminal proceedings for culpable negligence or a successful civil action had been brought against a medical man on account of a death resulting from or occurring whilst under the influence of a general anæsthetic. In all probability each case would be left to the jury to be decided in the light of the particular circumstances. Mr. Cowburn submitted that if negligence be proved in respect of an administration the medical practitioner actually administering the anæsthetic was liable, not the surgeon who was engaged in the operation. If the surgeon took upon himself to decide the particular kind of anæsthetic to be employed or the apparatus to be used, or the amount of anæsthetic to be administered, he would probably be held jointly responsible with the anæsthetist for any unfortunate result to the patient (assuming negligence to be proved). But where a nurse or a student was engaged in the administration of an anæsthetic under the direct supervision of a medical man there (it was apprehended) the relationship of master and servant existed; the nurse or student being under the direct control of the medical man as to method, quantity, and kind of anæsthetic employed, hence the qualified man was responsible. It was customary, though not the invariable practice, for the surgeon to select the anæsthetist and generally to control the procedure of the operation. And if an operating surgeon could be properly charged with selecting an anæsthetist who had not had sufficient experience to enable him to give the anæsthetic properly, in case of a fatal result the surgeon might be held liable. But apart from gross negligence, which was probably of the rarest occurrence, it was submitted that attempts to make medical practitioners liable to legal consequences for deaths occurring while an anæsthetic was being administered would damage humanity at large. Moreover, where pure anæsthetics were administered it would be difficult, in view of the fact that differences of opinion existed as to the exact manner in which anæsthetics act, to state the precise mechanism of the fatal issue and hence the extent of the responsibility of the administrator. Mr. Cowburn, in his carefully prepared paper, also dealt with the questions of consent and confidential communications, and illustrated his submissions and arguments by quoting decided cases.—Mr. M. I. Finucane, Mr. Walter C. Williams, Dr. Charles A. Mercier, Dr. Albert Wilson, and Dr. F. J. Smith took part in the discussion that followed.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The spring meeting of the Northern and Midland Division of this association was held at The Grange, near Rotherham, on April 20th, Dr. G. E. Mould being in the chair.—Dr. Mould read a paper on the Private Asylum and gave an interesting sketch of the regulations affecting such an institution, how the licence had to be renewed each year like some other forms of licence, and the hardships under which private asylums were placed as the law at present stands. Though at one time they bore a bad name, yet many good names have been associated with their foundation, such as those of Tuke, Newington, and Hill. He pointed out that the reputation and prosperity of such an asylum depended on two things only, "its ability to cure the curable and to treat with kindness the incurable."—Dr. W. J. N. Vincent read a report on a case of Conjugal General Paralysis, and showed photographs of the man and his wife. He pointed out that though cases had probably been frequently met with, the number recorded was comparatively few apparently. The cases were instructive in the fact that there was a history of syphilis in the husband which had been acquired after marriage; that he was the first to be affected mentally; that his disease took the "expansive" form with grandiose delusions, whilst his wife suffered from the "stuporose" form, depression gradually merging into dementia. The husband had no congestive attacks, while the wife had, but in both the concomitant physical signs were well marked. The husband was a commercial traveller, 50 years of age, undersized and somewhat ill-developed. He was happy, contented, and self-satisfied, and showed the usual characteristics of general paralysis. He gradually became demented and died about two years after admission. The wife was 50 years of age and was admitted three years after the husband. She was depressed and apathetic and became steadily demented. She had several epileptoid seizures and died about one and a half years after admission. In both cases the post-mortem examination showed the characteristic changes.—Dr. R. Kelly read a paper by Mr. L. A. French on the Vagrant or "Can't Work." Mr. French said that in his prison experience he had come in contact with the class. The general crimes committed by them were sleeping out, wandering abroad, and begging alms, but never any great criminal offence needing much brain work. The following was the usual table of classification: 1. (*a*) congenital deficiency with epilepsy; (*b*) congenital deficiency without epilepsy.

2. Imperfectly developed stages of insanity. 3. Mental debility after attack of insanity. 4. Senility. 5. Alcoholic. 6. Undefined. But for purposes of generalisation these six categories resolved themselves into two classes: 1. Those who were congenitally feeble-minded. 2. Those who were not. He further divided them into true and quasi vagrant; the former were nearly always congenitally wanting, the latter from stress of external circumstances. He stated that out of 194 cases under his observation 122, or 63 per cent., were found congenitally wanting. He then briefly sketched the history of a typical case of the class referred to and drew the following conclusions from his experiences: (1) Three in every four beggars and vagrants were really feeble-minded; (2) two out of every three, or 65 per cent., of those found wanting could be shown to be congenitally feeble-minded; (3) the chief causal factor in the condition of this latter class was parental alcoholism; (4) that this particular class was not as a class criminal; and (5) that all vagrants and masterless men found to be wanting should be recognised as dements, segregated at special work, farm colony labour for preference, and thus made to defray to the State the cost of their maintenance.

Reviews and Notices of Books.

The Diagnosis of Nervous Diseases. By PURVES STEWART, M.A., M.D. Edin., F.R.C.P. Lond., Physician to Outpatients at the Westminster Hospital; Joint Lecturer on Medicine in the Medical School; Physician to the West-End Hospital for Nervous Diseases and to the Royal National Orthopædic Hospital. Second edition, revised and enlarged. London: Edward Arnold. 1908. Pp. 451. Price 15*s.* net.

IT is a pleasure to welcome a second edition of so practical and instructive a work as Dr. Purves Stewart's book on the Diagnosis of Nervous Diseases. The subject is dealt with from a clinical standpoint, and careful directions are given to enable the practitioner to work out the symptoms presented by patients and to accord them their proper value in diagnosis. Complex theoretical considerations are wisely omitted, although sufficient anatomical details and physiological principles are outlined to render the explanation of the symptoms intelligible.

The arrangement of the material is convenient, various symptoms or groups of symptoms being considered in separate chapters—e.g., comæ, fits and other convulsive phenomena, aphasia, incoördination, postures, and gaits—an arrangement which facilitates reference and which should be helpful in the working out of cases clinically.

The difficult subject of aphasia is dealt with simply and the various forms usually described are clearly differentiated. The recent views of Marie are also set forth in a note and are subjected to a lucid criticism. An interesting chapter is that devoted to postures and gaits, which are succinctly described and well illustrated by photographic reproductions showing typical examples observed by the author. Under the heading of trophoneurosis the various trophic changes in the skin and dermal appendages, bones, and joints, found in association with lesions of the nervous system, are described and illustrated.

A useful chapter which is deserving of special mention is that dealing with affections of the sympathetic system and with angioneuroses. The description of the ocular signs of paralysis of the cervical sympathetic is very clearly worked out, and brief notes are given of cases illustrating pseudoptosis, enophthalmos, and myosis. In like manner the distribution of sweat-fibres to the face is admirably illustrated by a case which has been recorded by Dr. Stewart elsewhere. The chapters dealing with the neuroses and with the cerebro-spinal fluid both contain a considerable amount of useful information. The instructions for the performance of lumbar puncture are clear and exact, and a most careful account is given of the diagnostic and therapeutic value of this procedure. The phenomena of spinal anæsthesia are also dealt with. The diagnosis of intracranial tumours, both as regards their topographical and pathological characters, is considered in a special chapter. The special features of tumours in various regions of the brain are succinctly stated. The plates, illustrations, and diagrammatic figures are uniformly good and considerably enhance the value of the book, while the index is complete and convenient for reference.

Dr. Stewart has thoroughly revised the text for this second edition and has added several chapters and a number of fresh illustrations. We can cordially commend this book to the student and practitioner who are anxious to work out their cases of nervous diseases adequately, for it is written in simple style and does not presuppose an intimate acquaintance with the more abstruse details of the anatomy and physiology of the nervous system.

Diseases of the Skin: an Outline of the Principles and Practice of Dermatology. By Sir MALCOLM MORRIS, K.C.V.O., Surgeon to the Skin Department of the Seamen's Hospital, Greenwich; Lecturer on Dermatology in the London School of Clinical Medicine; Consulting Surgeon to the Skin Department, St. Mary's Hospital. New and enlarged edition. With 10 coloured and 47 black-and-white plates and illustrations in the text. London, Paris, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1908. Pp. 686. Price 10*s.* 6*d.*

THE first edition of this book was published in 1893, and several new editions and reprints of it have appeared since. This, the fourth, edition is an improvement on its predecessors, for it has been brought up to date and it contains additional excellent new illustrations, some of which are coloured. They show, as well as can be shown on a small plate, the typical lesions. Sir Malcolm Morris has been assisted by Dr. S. Ernest Dore in the preparation of this edition, and we can say of it that it is fully representative of the best dermatological teaching of the present day. It is very practical and it contains much more than might have been expected in any one volume, large as the book is. For the general practitioner and the senior student it is excellently suited. As was the case in previous editions, the index is so arranged as to show at a glance the main lines of treatment available in each disease.

Gynæcology and Abdominal Surgery. Edited by HOWARD A. KELLY, M.D., F.R.C.S. (Hon.) Edin., Professor of Gynæcologic Surgery at the Johns Hopkins University, Gynæcologist to the Johns Hopkins Hospital, Baltimore; and CHARLES P. NOBLE, S.D., Clinical Professor of Gynæcology at the Women's Medical College, Philadelphia, Surgeon-in-Chief Kensington Hospital for Women, Philadelphia. Illustrated by HERMANN BECKER, MAX BRÖDEL, and others. Volume II. London and Philadelphia: W. B. Saunders Company. 1908. Pp. 900, 871 illustrations. Price 35*s.*

THE second volume of this work is mainly concerned with abdominal surgery. It well maintains the high standard of the first volume and contains many interesting articles by well-recognised authorities. The first chapter deals with complications occurring after operations, and is written by Dr. G. Brown Miller. It gives a full account of all the commoner complications, as well as such infrequent results as acid intoxication, delayed chloroform poisoning, acute dilatation of the stomach, and post-operative thrombosis.

Dr. J. W. F. Ross has contributed the chapter on Cæsarean section and Porro's operation, and it can hardly be described as up to date or such as one would expect to find in a work of this class. He recommends the delivery of the uterus outside the abdomen before the removal of the child; this,

in cases where the operation is performed before the rupture of the membranes, is quite unnecessary, as the liquor amnii has been shown to be aseptic, and the delivery of the uterus necessitates a much longer abdominal incision than is otherwise required. The use of an elastic ligature to prevent hæmorrhage is another procedure which has been given up by almost all operators of any experience, and one hardly expects to find at the present day the advice to use a drainage-tube after total abdominal hysterectomy.

Dr. Richard Norris writes on the important question of operations undertaken during pregnancy, and Dr. Barton Cooke Hirst on the operative treatment of sepsis in the child-bearing period, a title which hardly expresses accurately the scope of the section, referring as it does to puerperal sepsis. Dr. Hirst, on the whole, seems to favour interference in some of these cases; thus he quotes an instance in which the patient recovered after removal of the uterus although she had general systemic infection and septic pneumonia, a case which to us appears only to prove that many of these patients recover in spite of the treatment. This fact Treub, whose statistics the author quotes, has demonstrated in recording 724 cases of puerperal infection with 34 deaths, or a mortality of about 4·6 per cent., while, on the other hand, in 61 cases reported by Fehling in which hysterectomy was performed there was a mortality of 55·7 per cent.

Dr. Whitridge Williams contributes a very good account of extra-uterine gestation. The fact that decidual formation probably follows and does not precede the imbedding of the ovum is surely a strong argument against, and, indeed, would seem to negative altogether, the theory that decidual formation in the tube can be a possible cause of a tubal pregnancy. The author gives a very good *résumé* of the literature. The next chapter by Dr. J. C. Bloodgood contains a detailed and trustworthy account of diseases of the female breast, with a large number of exceedingly good illustrations, many of them coloured. A full description of the operative technique adopted in Halsted's clinique is given with a number of drawings. The very good results which are obtained after these extensive operations, as regards the functional use of the arm, are well shown in Figs. 541 and 542. There does not appear to be any reference in the chapter to Sampson Handley's important work on the lymphatics of the breast and its bearing on the various methods of operating. Operations on the gall-bladder, bile-ducts, and liver are described by Dr. Albert Ochsner in an admirable manner, full credit being given to the work of Mayo Robson and others in this branch of surgery.

The fact that the section dealing with operations on the stomach is contributed by Mr. B. G. A. Moynihan will show that it contains all that there is to be said on these important surgical procedures, and it is illustrated by a number of excellent illustrations by Mr. H. Becker. The article on pyloroplasty is from the pen of Dr. J. M. T. Finney. The chapter on intestinal surgery extends over more than 100 pages and is by Dr. J. B. Murphy. When we mention that the description of diseases of the appendix is written by Dr. Howard Kelly and Dr. Elizabeth Gurdon the reader will know that it is full of information. The chapter on the surgery of the spleen and that on the ureter are also written by Dr. Kelly, and are both good. Dr. Kelly recognises the extreme difficulty which often attends the treatment of ureteral fistulæ and is not very optimistic about the results of such operations. In his article on tuberculosis of the peritoneum Dr. G. B. Johnston voices the opinion of many surgeons of the present day when he concludes that in an affection of this kind "one's first efforts should be directed towards treating the patient, while the second consideration has to do with the best method of handling the local process." It appears very likely that the surgical treatment of such cases will give way more and more in the future to treatment by the physician.

One of the most interesting sections in the whole work is that giving an abstract of the literature of penetrating wounds of the abdomen in the chapter on that subject. The perplexing problems involved in the treatment of various septic conditions, with or without drainage, are discussed in detail in a chapter on the use of drainage in pelvic and abdominal surgery, by Dr. Brooke M. Anspach. The great advantages in many instances of drainage in the female by an incision through Douglas's pouch—a method which is too much neglected by the general surgeon—are rightly laid stress upon, and the ease with which it can be carried out is shown.

The surgery of the kidney is fully considered in a chapter extending to nearly 100 pages by Dr. C. P. Noble, in conjunction with Dr. Brooke Anspach. A very striking illustration in a book containing many fine drawings is that of a case of polycystic disease of the kidney.

The whole work reflects great credit on all concerned in its production and should prove of great value to all surgeons and practitioners. As we have already mentioned, the illustrations leave nothing to be desired and the printing and index are both excellent.

Neurasthenia. By GILBERT BALLET. Translated from the French by P. CAMPBELL SMITH, M.D., Durh. London: Henry Kimpton. 1908. Pp. 408. Price 6*s.* net.

THE present English edition has been taken from the third French edition, which appeared last year. The matter of the original work is wholly admirable, and the English form in which it has been clothed by Dr. Campbell Smith has in no way taken from its value. Indeed, the translator has succeeded in no small degree in reproducing in our tongue the terse directness of the original.

We note with satisfaction the stress which Professor Ballet lays upon defective education as an etiological factor in the production of neurasthenia. Our educational system, in endeavouring to produce strict uniformity in its methods, finds many for whom these methods are unsuited, with the result that the child, instead of starting life endowed with a firm will and enlightened judgment, has become capricious and obstinate, being devoid of strength of will and moral firmness. Over brain pressure in schoolboys shows itself in two forms: one in which there are insomnia, irritability, a nervous laugh, and palpitations; the other in which there are yawning, a frequent desire to sleep, inattention, and an expression of languor. Whereas the element of heredity is an important one in certain forms of neurasthenia, it is desirable that the education of children with a hereditary neurotic predisposition should pursue a triple aim: firstly, to develop harmoniously all the capacities of the individual; secondly, to keep down any tendency that may disorder the physical and moral equilibrium; and thirdly, to strengthen the energy and the physiological power of resistance of the nervous system. All moral education must aim at the following end: to convince the child that he is capable of good, and to make him believe that he has a will and may be master of himself. Nothing is so enervating, nothing so fitted to unbalance and weaken the nervous system, as to be wholly taken up with the pursuit of pleasure and the satisfaction of the least elevated and least noble desires. A lively interest in the useful part that each of us can fill in his position, according to his aptitudes and faculties, is not only a moralising element, but is also in certain respects a condition of health. Neurasthenia is

often the natural but regrettable penalty paid by uselessness, idleness, and vanity.

The author is judicious in his remarks on the subject of psychotherapy. This is no new method of treatment, as we have ourselves pointed out, but it has lately been extolled to such an extent in certain quarters that it has been elevated into a panacea. It is, in fact, a system no more applicable to all cases than is electricity or hydrotherapy, and we only do harm if it is tried to employ it in all cases of the psychoneuroses without distinction. The good doctor is not he who has a system of his own, and applies it to all cases empirically, but he who is able to distinguish special indications and to adapt his treatment to the individual psychology of each patient. With these reservations psychotherapy is, in the author's opinion, of the greatest service in neurasthenia. So, too, of hypnotism. This method, useful to combat this or that incidental symptom of psychical nature arising in the course of nervous exhaustion, cannot be reasonably proposed as a mode of general treatment of neurasthenic conditions. Indeed, there is some danger in accustoming the patients to induced somnambulism, and not a few cases could be quoted in which hypnotism has manifestly determined the appearance of mental disorders of real gravity.

We are glad to note that the author is of opinion that the term "psychasthenia" should not be attached to the strongly marked borderland cases to which there is now a tendency to apply it. The term at present serves to denote the mental fatigue and the inability for brain work of simple neurasthenia, and it is a pity to change the meaning of the word to make it include other and very different states. The author gives us a long and exhaustive chapter on diet. The difficulty of this part of the treatment is notorious, and the practitioner will find here many useful hints to assist him in his arduous task.

We can confidently recommend this practical work. It has justly taken a high place in the literature of neurasthenia.

American Practice of Surgery. Editors: JOSEPH D. BRYANT, M.D., LL.D., and ALBERT H. BUCK, M.D. Complete in eight volumes. Profusely illustrated. Volume V. New York: William Wood and Company. 1908. Pp. 965. Price per volume, $7.

THE very important section of the Surgery of the Head has been undertaken by Dr. Edward Archibald of Montreal, and the article extends to 378 pages; in fact, it forms in itself an excellent treatise on cranial and cerebral surgery. Dr. Archibald discusses very fully the pathology of compression of the brain and his description is clear. The difficult subject of concussion of the brain receives a very full examination, and the author comes to the conclusion that concussion is at first due to a combination of mechanical and vascular disturbance, the vascular disturbance being a temporary anæmia. The more prolonged unconsciousness of concussion he considers to be due to the persistence of a partial anæmia, itself the result of an almost immediate interference with the capillary circulation by minute thromboses, and succeeded by the rapid development of intracerebral, or more especially of intra-cortical, œdema sufficient to induce an increase of cerebral pressure, while associated with this is a loss of the vaso-motor tone. The surgery of intracranial tumours is well described. Altogether the article is exceedingly good.

Dr. Charles H. Frazier of Philadelphia has written on the Surgery of the Cranial Nerves, and naturally most interest is connected with the fifth nerve. The various operations for severe tic are given, and Dr. Frazier then describes an operation he has devised for the division of the sensory fibres passing to the Gasserian ganglion. The method has been employed almost exclusively at the hospital of the University of Pennsylvania since 1901 with very satisfactory results. The ganglion is approached by the "auriculo-temporal route," and the patient is placed in the sitting position in order to lessen the hæmorrhage. The method is fully described and it deserves more attention than it has hitherto received.

Dr. C. G. B. de Nancrède of Ann Arbor has contributed the article on Surgical Diseases and Wounds of the Face. It is well illustrated and contains a very readable account of the surgery of this portion of the body. We may point out that the clinical and histological differences between ordinary squamous-celled carcinoma of the face and rodent ulcer are sufficiently clear to justify a greater distinction being drawn between them than is made here.

Dr. J. S. Stone of Boston, Massachusetts, has written the chapter on Harelip and Cleft Palate. On the question of the age at which a cleft palate should be treated Dr. Stone gives the ordinary arguments, and he arrives at the conclusion that the surgeon should wait at least six months and that waiting for 10 to 15 months would do no harm; he thinks, however, that the Brophy operation may be of value. In this country Mr. Arbuthnot Lane is the chief exponent of the early operation, and his operation is described in this chapter. Sufficient stress, however, is not laid on the value of the early operation in preventing the nasal voice; the condition is due to an arrest of development, and like other instances of this the earlier the tissues are put into a normal position the more closely will they approximate to the normal. Increased care is undoubtedly needed in the nursing of these cases, and the operation is distinctly more difficult the younger the patient, but the advantages are great.

The section on the Surgery of the Eye, by Dr. George C. Harlan of Philadelphia, is much fuller than is usually to be found in a treatise on general surgery. It occupies more than a hundred pages, and in addition to many illustrations in the text it has some good coloured figures. The account is very good and clear. We must, however, demur to the statements that molluscum contagiosum is derived from a sebaceous gland and that it is not contagious.

Dr. Robert Lewis, jun., of New York City is responsible for the article on the Surgery of the Ear. The description of the operation on the mastoid process and its communicating cavities is particularly deserving of mention. The closely allied subject of sinus thrombosis of otitic origin is dealt with by Dr. John D. Richards of New York City. The author is in favour of resecting the jugular vein rather than merely tying it, and he prefers that the resection should be performed low down, so as to prevent as far as possible the establishment of a collateral circulation. The account of the surgery of labyrinthine suppuration is especially good, and it has some excellent original illustrations. The section on the pyogenic diseases of the brain resulting from ear disease is from the pen of Dr. H. Ottridge Reik of Baltimore. In exploring the brain substance for an abscess he prefers a narrow knife and a "cigarette drain" for drainage of the abscess cavity.

Dr. Charles H. Knight of New York City has contributed a valuable article on the Surgery of the Pharynx, but we think that to employ the adjective "barbaric" to the operation of enucleation of the tonsil is unnecessarily severe. Dr. J. E. Newcombe is the author of the section on the Surgery of the Larynx and Trachea. This includes a good description of the methods of direct laryngoscopy and bronchoscopy. Laryngectomy is described by Dr. Frank Hartley, and with such a distinguished author it is hardly necessary to say that the account given is all that it should be.

Altogether this volume is fully up to the standard of its predecessors. We would suggest that it would assist busy readers if the contents of each volume could be indicated on

the back; this would greatly facilitate the finding of any special article, and would often save reference to the general index.

LIBRARY TABLE.

The Etiology and Nature of Cancerous and Other Growths. By W. T. GIBSON, A.R.C.S. London: John Bale, Sons, and Danielsson, Limited. 1909. Pp. 123. Price 6*s.* net.—This is a careful attempt to elucidate the cause of cancer. The basis on which the theory has been built is the great difference existing between the mortality-rate from cancer in different occupations as affording an indication of the possible causes; and a table is given, founded on the returns of the Registrar-General, showing the death-rate from cancer of various classes of persons between the ages of 25 and 65 years. From this table it is seen that those occupations appear to be especially fatal by cancer in which the workers come into contact with organic compounds—gaseous, liquid, and solid; thus chimney sweepers, soap makers, brewers, curriers, and butchers all have a high cancerous mortality. The author takes these occupations in turn and shows that in each of them and in other similar employments many complex organic substances are formed. Similarly it is shown that in districts where cancer is common the soil is more moist than in those districts where the disease is rare, and he deduces that this greater frequency is probably associated with the pouring out of gaseous organic compounds from the soil. As to the mode of action of these various substances we are told that first of all they induce a precancerous inflammatory condition, and later they have a direct causative action. A certain amount of evidence is put forward in favour of these effects, but Mr. Gibson cites warts as an example of tumours produced by the irritation of organic compounds. It is against his theory that dermatologists are now agreed that warts are microbic in origin. The influence of mechanical injuries and of other external irritants in the production of malignant growths is not denied. The nervous system is also credited with some influence, but the chief factor is considered to be the irritation from organic substances. We think that we have given an accurate idea of the theory put forward by the author, and he supports it by a wealth of evidence culled from medical literature. The preparation of the book must have required an enormous amount of work, and great credit must be given for the perseverance with which it has been carried out. The author promises us a more extensive work on the subject. One chapter is devoted to suggestions as to the line along which attempts at treatment might reasonably be made; and the main suggestion is that mineral acids should be administered to diminish the abnormal alkalinity of the blood plasma. We have found the book interesting.

Précis de Dermatologie. (*Epitome of Dermatology.*) Par J. DARIER, Médecin de l'Hôpital Broca. With 122 figures in the text. Paris: Masson et Cie. 1909. Pp. 707. Price 12 francs.—This work is intended for students who are commencing the study of diseases of the skin, and the author has borne in mind their special needs. He has divided the book into three parts. In the first he has described the naked-eye appearances of dermatoses, and he has shown how the pathological histology accounts for the clinical manifestations and for the symptoms of which the patient complains. In the second part the author describes definite diseases of the skin considered from an etiological point of view, such as the parasitic dermatoses; and in the third part is given a *résumé* of the chief therapeutic measures available for the dermatologist. The book is good and it is sure to prove useful. Great pains have been taken to keep it from being too large, and to this end bibliographical references and theoretical discussions have been omitted, and Dr. Darier has limited himself to the essentials of diagnosis and treatment. He has endeavoured to simplify the notation, but he has found it advisable to introduce a few new words, a not unusual result of attempts to make less complex the nomenclature of dermatology.

How to Nurse Sick Children. By the late CHARLES WEST, M.D. New edition. London: Longmans, Green, and Co. 1908. Pp. 52. Price 1*s.*—This little book was originally published anonymously by the late founder of, and physician to, the Hospital for Sick Children, Great Ormond-street, for the benefit of the funds of that institution, and is now re-issued for the same object with a preface by Dr. G. F. Still, an active member of the hospital's present staff. The book will read somewhat strangely to those accustomed to the modern nursing text-books, which tend more and more to become diluted extracts of medical and surgical treatises. Dr. West speaks in such language as could be understood by any literate woman, and with his technical instruction he mingles the religious leaven of a devout mind. We trust that this will not cause any to think the work of sentimental rather than practical interest. On the contrary, it contains a deal of ripe, shrewd teaching, especial regard being paid to the importance of "little things." The chapter on How to Observe Sick Children affords a good instance of this; and to show the quality of the book we will quote one passage from that on the Sick Child's Room, which directs the nurse to ensure quiet by "speaking not in a whisper but in a low and gentle voice; walking carefully not in a silk dress nor in creaky shoes but not on tiptoe, for there is a fussy sham quietness which disturbs the sick far more than the loudest noise." Not only nurses, who do not often discharge their duties in silk dresses, but mothers in charge of sick children at home would do well to obtain this book.

JOURNALS AND MAGAZINES.

The Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., ALEX. MACALISTER, D. J. CUNNINGHAM, ARTHUR THOMSON, and ARTHUR KEITH. Vol. XLIII. Third Series. Vol. IV., Part III., April number, 1909. London: Charles Griffin and Co. Annual subscription, 21*s.*—The contents of this part are: 1. The Development of the Male Urethra and a case of Imperforate Urethra in a Fœtus, fully described by John Evan Spicer, M.D. Cantab., a remarkably interesting and well-described case illustrated by numerous drawings in the text. 2. The Means of Displaying by Ordinary Dissection the Larger Tracts of White Matter of the Brain in their Continuity, by E. B. Jamieson, M.D. Edin., lecturer on anatomy, University of Edinburgh. The method consists in hardening the brain by the injection of a 5 per cent. solution of formaldehyde for a month or more and dissecting from without inwards, or, rather, from the surface, whether external or mesial, inwards, and the result as exhibited in the drawings that accompany the article seems to be exceedingly instructive. 3. External Features of an Early Human Embryo with a Distended Amnion, by C. J. Patten, Sc.D. This article is also well illustrated. 4. On a Case of Displacement of the Descending Colon, by Mahmoud Hamdy and Mustapha Fahmy Sorour, Cairo. 5. The Nature and Cause of the Physiological Descent of the Testes, by D. Berry Hart, M.D. Edin., Carnegie Research Fellow, with 19 figures in the text. 6. Note on the Innominate Bone as a Factor in the Determination of Sex, with Special Reference to the Sulcus Præauricularis, by Douglas E. Derry, M.B., Ch.B. Edin., Cairo, with five figures in the text. 7. A Rare Condition of Wormian Ossifications, by E. Barclay-Smith, M.D. Cantab., Cambridge University Lecturer in Advanced Anatomy. This part contains also the Proceedings of the Anatomical Society of Great Britain and Ireland for June, 1908.

THE LANCET.

LONDON: SATURDAY, MAY 8, 1909.

Infantile Mortality in Hospitals.

THE recent Privy Council Committee on Physical Deterioration, after a prolonged and laborious investigation respecting the nature and extent of the waste of infant life still taking place in this country, declared its conviction that the means by which this excessive waste can be prevented is a problem of supreme importance to the welfare of our race. One of the practical results of the publication of the recommendations of that committee has been a decided and manifest awakening of the public conscience as to the necessity of providing for the more effective protection of infant life, especially in view of the continued decline in the English birth-rate; and it is probable that the practically unopposed passing of the "Children's Charter,"[1] which has recently found a place in the Statute Book, was due in a large measure to the conclusive nature of the evidence collected by that committee, emphasised by its very able discussion in the detailed report. Although the national returns of causes of death have recently been vastly improved by the addition of columns showing the mortality in the earliest days and weeks of life, still, no attempt has as yet been made to record the vast amount of "sickness that is not unto death," but the ultimate effects of which on the health of the community must unquestionably be very serious. In this connexion it should be remembered that preventive science has yet much to learn before the possession can be attained of a knowledge of the causes of ill-health and deterioration in the infantile section of the community sufficiently accurate to warrant the imposition by the legislature of serious compulsory additions to parental responsibility. The only safe foundation for the systematic study of infant mortality is obviously a register of sickness not necessarily fatal, and although in this country registration is limited to the ordinary infectious maladies, notification of which is required by law, nevertheless there are grounds for hope that in the not distant future records of at any rate the more prevalent and destructive diseases occurring in private practice may be secured. To show the practicability of a system of sickness registration on these lines we may quote the opinion of Sir SHIRLEY MURPHY, who in his report for 1904 as medical officer of health of the Administrative County of London, says: "The idea has long been entertained, and the time appears to have now arrived for carrying such a scheme into effect. If it were thought well to make a beginning with the figures of a compact and more or less homogeneous area, such as the County of London, there should be no difficulty in making arrangements for communication to a central authority of weekly statements of sickness of certain special kinds brought recently under treatment in infirmaries, hospitals, and dispensaries. Such returns would probably be of value, and if this fact were demonstrated in London, an extension of the system to the rest of the country could later readily be made."

To the Section for Study of Disease in Children of the Royal Society of Medicine a paper was read recently by Dr. DAVID FORSYTH, on "Infant Mortality as seen in a Children's Hospital." In that paper, which has since been circulated in pamphlet form, an attempt is made to determine the relative fatality of the several pathological conditions that contribute to the death-toll in the first year of life, the material for study having been derived from an analysis of about 1200 consecutive deaths at the Evelina Hospital for Sick Children. The criterion adopted for comparison with the mortality in his own hospital is that of the entire English community as set forth in the returns of the Registrar-General, and Dr. FORSYTH expresses surprise at some of the discrepancies that exist between those returns and his own experience at the hospital named. But the standard of comparison was not a wholly fortunate one for the following amongst other reasons. In the first place, we note that the Evelina Hospital's statistics referred to in the paper are exclusively concerned with the mortality of infants under the age of one year, but that nothing is stated respecting their exact ages, in weeks or months of that period. Now, in both the official reports referred to in the paper the mortality of infants in the first week after birth is shown to be enormously greater than in any later period of life. We must suppose that the majority of Dr. FORSYTH'S patients had survived to the later months of the first year of life in order to account for their removal from home to the hospital. Nevertheless, it is known that of the total mortality under one year more than half is due to deaths occurring within three months of birth; and it is unlikely that any considerable number of deaths at that age of highest mortality would occur among the patients at the Evelina Hospital. Again, with respect to pre-natal circumstances, and especially to the parentage, of the infants in Dr. FORSYTH'S clinic we are not informed; but the death-rate of infants born in workhouses certainly exceeds that of infants born under other circumstances, for example, in the maternity wards of those hospitals, admission to which is restricted to respectable married woman. Nevertheless, the deaths in Poor-law institutions form a very large proportion of the mortality returns of the Registrar-General with which the Evelina returns are here compared. For the foregoing, as well as for other statistical reasons, the strict comparability of the two series of returns is open to question; the limitation of such comparison was, indeed, insisted upon in the course of the discussion which followed the reading of the paper, mainly on the ground that the conditions of hospital practice differ so widely from those of everyday life.

But Dr. FORSYTH'S paper was by no means confined to the points we have here considered. In the course of his remarks he reported a number of obvious inaccuracies in the national returns of causes of death. Whilst duly appreciating the value of the Registrar-General's reports, because of

[1] Children Act, 1908. (8 Edw. VII., Ch. 67.)

the wide extent of the data on which his calculations are based, Dr. FORSYTH contends that in the nature of the case these returns cannot generally be pathologically exact. He therefore raises the question, "Whether the official figures truly reflect the fatal conditions of infancy at the present day, and how far they carry us in devising remedial measures." In the course of an able criticism of the national death records, Dr. FORSYTH comments on the prominent positions occupied by "marasmus" and convulsions, and on the relatively subordinate importance apparently attaching to syphilis, tubercle, and rickets. Whilst fully recognising the difficulty met with by even experienced clinicians in interpreting the symptomatology of infancy, he expresses astonishment that so large a proportion as 16 per cent. of the total mortality should be referred to marasmus, and 12 per cent. to convulsions, whilst only 5 per cent. are attributed to tubercle, 1·3 per cent. to congenital syphilis, and 0·6 per cent. to rickets. It is not easy to harmonise clinical experience with these figures. Marasmus, with its official synonyms atrophy and debility, is a term of vague significance, and is generally employed in connexion with diseases of which wasting is merely a symptom. Congenital syphilis is frequently met with in out-patient departments, and is particularly fatal to young children. Yet in the whole of England it is stated to be responsible for little more than 1 per cent. of the total infantile mortality. If hospital experience is to be trusted, this figure considerably understates the fact. The large proportion of deaths, some 20 per cent. of the whole, attributed to premature birth almost certainly includes a considerable number that should have been referred to this disease, and the scarcely less proportion referred to marasmus probably contains others. The general tenour of this criticism applies even more forcibly to convulsions, a term the use of which in medical certification has been forbidden by the Royal College of Physicians of London. The official figures under this heading are believed by many to be worthless for advancing our acquaintance with the fatal conditions of infancy, and we hold them to be actually misleading. They hide, under a meaningless designation, important fatal conditions, the returns for which are unduly minimised. In conclusion, Dr. FORSYTH expresses the hope, in which we heartily concur, that the publication of the Evelina Hospital statistics will lead to the preparation of corresponding figures for other hospitals. By this means a far-reaching and practical measure will have been secured for diminishing the present excessive waste of infant life.

Rheumatic Fever.

IN the Lumleian Lectures delivered this year before the Royal College of Physicians of London (the concluding lecture being published at p. 1297 of this issue) Dr. NORMAN MOORE selected a subject which is of widespread interest—namely, Rheumatic Fever and Valvular Disease. In the older textbooks rheumatic fever, or as it was, and indeed is, frequently called "acute rheumatism," was classified under "Diseases of the Joints," but in the "Nomenclature of Diseases," drawn up by a joint committee appointed by the Royal College of Physicians of London, it is now rightly placed under "Infective Diseases." As Dr. MOORE pointed out, it is so common a disease that every physician has seen very many examples of it, yet its natural history is still obscure in several directions. He also remarked that its name recalls a pathology long anterior to the revival of learning. His erudite and interesting account of the historical literature of the disease will be found most attractive. Following the usual course of knowledge about any particular disease, some prominent symptom was first noticed and then assumed to be the whole disease—in the case of "acute rheumatism" the affection of the joints was naturally selected as the predominant feature—but progressive observation has gradually demonstrated that this prominent symptom may be a result of several distinct morbid conditions. Thus, the single disease of past generations of medical authorities comes to be divided into two or more separate maladies, and separate terms are necessary to distinguish them. The distinction between typhoid and typhus fevers is an example of this advance of knowledge. In the case of "rheumatism," although the nosology of affections of the joints leaves much to be desired, yet it is now recognised that rheumatic fever is a distinct disease, entirely apart from other acute, subacute, or chronic affections of the joints, such as septic arthritis, gonorrhœal rheumatism, chronic rheumatism, and the various conditions classified under the term "rheumatoid arthritis." We endorse Dr. MOORE'S contention that since it is desirable to avoid the suggestion of any pathological relation to chronic rheumatism, it would be better for the term "acute rheumatism" to fall out of use, and that the words "rheumatic fever" be invariably adopted. We also join in the protest against the term "subacute rheumatism," which he considers should never be used, as it naturally suggests an absence of importance which attaches to no case, however slight, of rheumatic fever.

We have said that it is now generally accepted that the condition we are considering must be placed amongst the specific fevers, but at present it must be reckoned amongst those fevers the bacteriology of which remains uncertain. Numerous investigations have been made on the subject, and several observers have claimed to have isolated the pathogenic organism. Dr. F. J. POYNTON and Dr. A. PAINE described a diplococcus which they concluded was *a* cause of rheumatic fever and from further experiments believed it to be *the* cause, and Dr. J. M. BEATTIE isolated a similar organism. By intravenous inoculation the last-named observer produced endocarditis, polyarthritis, and chorea—a combination of lesions similar to those occurring in connexion with rheumatic fever. Other investigators, however, have failed to corroborate these observations, and the "micrococcus rheumaticus" cannot yet be accepted as the true bacteriological factor of the disease. Dr. W. BULLOCH maintains that it does not fulfil all, or indeed any, of KOCH'S postulates. It is not found, he says, in every case of the disease, and the effects which it produces experimentally do not differ essentially from those produced by cocci having nothing to do with rheumatic fever. But although the bacteriology must still be left in doubt, there is no uncertainty about the pathology of the

malady, the essential phenomena being found in the joints and in the endocardium. Hitherto the condition of the joints has been considered as the principal element in rheumatic fever; Dr. NORMAN MOORE, however, insists that the endocarditis is not to be regarded simply as a frequent complication, but as the essential and invariable feature of the affection. He maintains that endocarditis is always present, and that in most cases, but not in all, it produces some permanent alteration in one or more valves. In proof of this assertion he states that, if the heart in a mild case of rheumatic fever is only auscultated at the beginning and end of the disease the sounds may sometimes seem to be unaltered, and it may therefore be assumed that they have been normal throughout, but if the heart is examined daily changes in its sounds will, in his experience, always be discovered. He considers that this fact, taken in conjunction with the evidence of the frequency of definite valvular diseases as a result of rheumatic fever, and with the frequency of a history of rheumatic fever in cases of valvular disease belonging to the first half of life, justifies the belief that those variations in sound may be taken as evidence of the presence of endocarditis, even though no permanent valvular lesion may ultimately be produced. He further mentions in support of his argument a fact that is generally accepted—namely, that the size or number of the joints affected has no direct relation to either the severity of the endocarditis or to the seriousness of the consequent valvular disease. Referring to the etiology of the disease, Dr. MOORE expresses the opinion that, whatever the point of entrance and line thence of travel, the endocardium is to be regarded as the invariable centre and primary region of growth of the pathogenic organism, so that the swollen joints may be considered as "so many colonial settlements proceeding thence."

Dr. MOORE'S remarks call for careful consideration. In support of the statement that the affection of the joints is not the primary seat of the disease, a consideration of the changes which occur in them is of interest. The lecturer pointed out that the affected joints appear to recover completely; he has not seen a single case of stiff joint from this cause in his wards during the last six years. If a patient dies during the attack as the result of cardiac failure no characteristic changes are found in the structures of the joints, neither thickening nor results of degeneration. There may be an increase in the quantity of synovial fluid, but the hyperæmia which probably existed during life has disappeared. There may be also temporarily a swollen and infiltrated condition of the synovial membrane, but if the patient had lived this would have subsided, leaving the tissues perfectly healthy. Another suggestive fact is demonstrated by a clinical feature which is sometimes noticed in individuals who have recovered from an attack of rheumatic fever, but are suffering from the effects of the endocarditis, in most cases a lesion of the mitral valve. If the temperature is taken regularly occasional moderate rises of temperature will be noticed; may not this be caused by the presence of the organism still in a state of activity in the endocardium? Dr. MOORE records several cases which would support this view, and asks the question, Does the organism cease to exist when the disease is apparently at an end, as does the pneumococcus of pneumonia, or does it, like the tubercle bacillus, live on indefinitely in the body, maintaining its lodgment for a time, not spreading, then again multiplying and doing more injury, sometimes finally dying out? We are inclined to the latter view, and in addition to the clinical phenomenon we have just mentioned the course which rheumatic fever often follows in children is significant. In young life endocarditis comes on in an insidious progressive form, and the arthritis may be slight or at the time inappreciable. In subsequent years a valvular lesion is discovered, indicating for the first time the true nature of the former illness. In further support of the continued presence of the pathogenic organism in the endocardium, Dr. MOORE adduces the fact that many attacks of the disease occur in the same individual, suggesting that these attacks are successive developments of an organism which has never been eradicated. We have only considered one division of the Lumleian Lectures; the remarks on valvular disease and the prognosis and treatment of rheumatic fever are equally interesting, and, as is always the case when Dr. NORMAN MOORE is the author, the attractive literary style and wide general information lend a charm to his statements, deductions, and suggestions.

Is Beri-beri Caused by Rice?

BERI-BERI has been hitherto regarded as a mysterious disease which has defied the efforts of investigators, but there are grounds for believing that its etiology is now in a fair way to be solved. The chief views which have been held as to the causation of this malady have been: (1) that it was a peripheral neuritis of paludal origin; (2) that it was due to nitrogen starvation; (3) that it was a microbial infectious disease; and (4) that it was caused by a toxin the product of a saprophyte outside the human body. All of these theories have been investigated, more especially by those who had opportunities for studying the disease in the Malay Peninsula and East Indian Archipelago, in which region it is estimated that nearly a fifth of the population suffer from the malady. There has been of late an increasing consensus of opinion that beri-beri is due in some way to the consumption of rice, and the arguments in favour of this view have been recently restated by Dr. W. LEONARD BRADDON of Selangor, Federated Malay States, a well-known authority on the subject. In a paper which was read for him by Dr. T. S. KERR at the April meeting of the Society of Tropical Medicine and Hygiene, a summary of which we published in THE LANCET of April 24th, Dr. BRADDON asserts that always and everywhere the uncured rice-eating community (the Chinese) suffered from beri-beri, while the eaters of cured rice (the Tamils) with equal invariability escaped. Also it is beyond dispute that those who eat rice that is fresh (the agricultural Malays and Dyaks) were exempt. So that it is not so much the eating of rice that is the source of the mischief, but the eating of a particular kind of rice—namely, that which is uncured. This uncured rice is the ordinary white rice of commerce imported usually from Siam, Saigon, Burma, or Java, and decorticated in mills by a process which scours away, together with the husk, all the surface layer of the seed. It is nearly always stored for

some time before it is consumed and is consequently liable to be "stale." The cured rice used by the Tamils is soaked for a short time, then rapidly steamed, and then dried, after which the husk is easily separated by light milling. The whole of the inner envelope and the surface layer of seed cells, which contain a large part of the total proteins and fat of the seed, are preserved intact. Rice which has lost its protective envelope is obviously likely to deteriorate and become "stale" or mouldy. The presence of a poison developed in stale uncured rice explains, in Dr. BRADDON'S opinion, all the phenomena of beri-beri. The toxic quality of uncured rice is an added effect, either the grain itself becoming altered in its nature or becoming the seat of growth of agents, ferments, bacteria or fungi, which produce a poison of their own. He conjectures that the active agent is some epiphyte existing in or upon the envelope of the rice, and able to invade it saprophytically under appropriate conditions when husked. This epiphyte he maintains to be specific to rice, since the use of no other cereal has been proved to entail beri-beri.

It has been urged against the rice theory of the causation of beri-beri that it is only a coincidence, since the disease is endemic in regions where rice is the staple article of diet. That the occurrence of beri-beri among eaters of uncured rice is no coincidence was proved by the recent observations of Dr. HENRY FRASER and Dr. A. T. STANTON of Kuala Lumpur, published in THE LANCET of Feb. 13th of this year. These observers investigated the conditions under which two parties of coolies, carefully selected and examined, were working in the virgin forest, living in new huts and kept under the most hygienic conditions practicable, one party feeding on cured and the other on uncured rice. In the course of some weeks beri-beri developed among the latter, but was quickly cured when they were put on a diet of cured rice. The party fed on cured rice remained in good health. These observations largely dispose of the theory of infection either of person or place, and show that beri-beri requires no assistance from transmitters such as biting beetles, bed bugs, or body lice, which according to some are responsible agents in diffusing the disease. It was pointed out in 1905 by Dr. C. HOSE, who had spent many years in Borneo, that the rice supplied to the coolies employed on plantations or public works was generally provided by contractors, and was often of an inferior kind, the contractor being tempted to supply the inferior article to increase his own profit. Dr. HOSE had often examined contractors' rice, and he attached suspicion to the constant presence in this mouldy rice of a small beetle or weevil as likely to be related to the cause of beri-beri. Chinese coolies are often conveyed to great distances to labour in plantations or constructive works, and it has been quoted as an argument in favour of the infection theory that the disease was carried by the coolies to their new place of abode. But on the above facts the explanation is easy if it be recognised that the contractors' rice is also carried to the new home, and probably in this case the mischief is intensified by the increased distance and the longer time the rice is in transit. It has often, too, been asserted that the rapid reduction of beri-beri in the Japanese navy was due to the addition of fat pork to the dietary, and therefore that rice could not have been the cause of the disease. It has to be borne in mind that the amount of rice consumed has to be considered. Chinese coolies who consume large quantities of rice suffer most. But if the rice in a dietary be replaced in some amount by animal food the quantity of poison taken must be correspondingly reduced and with it the risk of contracting beri-beri also.

A frequent argument adduced against the rice theory is that beri-beri occurs in ships at sea among European sailors who do not largely live on rice. It has to be remembered that beri-beri is by some regarded more as a clinical than an etiological entity, and that it is very liable to be confounded with other morbid conditions such as alcoholic or arsenical neuritis, malarial cachexia, epidemic dropsy, pernicious anæmia, pellagra, and scurvy. It is therefore possible that ship beri-beri, though clinically resembling the Asiatic variety, is not the same disease. The Norwegian Commission, of which Professor UCHERMANN of Christiania was president, and which was appointed in 1902 to inquire into the origin of beri-beri so common on board Norwegian sailing ships on long voyages, defined beri-beri as "the oriental name given to a multiple neuritis which is due to a toxin intoxication by tainted (stale) vegetable or animal food. The vegetable form closely corresponds to the Asiatic variety, and is usually owing to the eating of tainted rice. The animal form corresponds particularly with the beri-beri which appears on European ships and is due to the eating of tainted tinned food." Whether or not the ship beri-beri be the same as that which afflicts the Chinese coolie does not in our opinion affect the contention, put forward recently by Dr. BRADDON, Dr. FRASER, and Dr. STANTON in our columns, that the eating of uncured rice is the cause of beri-beri in the Far East. There can, we think, be no question as to the incrimination of uncured rice. The point now remaining to be demonstrated is whether the symptoms of the disease are the result of a nitrogen starvation or are due to a toxin produced in the rice by some organism. We look forward with confident expectation that a solution of this problem will be forthcoming from one or other of the scientific investigators who are now working in the regions where beri-beri most abounds.

Annotations.

"Ne quid nimis."

THE POOR-LAW COMMISSION: REPORT ON IRELAND.

THE Royal Commission on Poor-laws and Relief of Distress has issued during the week as a separate volume the report on Poor-law administration with respect to Ireland. Here, also, as in the report dealing with England, we have a Majority and a Minority Report, in addition to which there is a separate Memorandum by the two Irish members of the Commission, the Bishop of Ross and Sir Henry Robinson, criticising the Minority Report, whose report is in itself a criticism of the Majority Report. The Majority Report, which comprises 83 out of 87 pages of the Blue-book, is

signed by Lord George Hamilton, the Bishop of Ross, Sir Henry Robinson, Sir Samuel Provis, Mr. F. Holdsworth Bentham, the Rev. Thomas Gage Gardiner, Mr. C. S. Loch, Mr. J. Patten MacDougall, Mr. T. Hancock Nunn, the Rev. L. R. Phelps, Professor Smart, Mrs. Helen Bosanquet, and Miss Octavia Hill, all of whom were signatories of the English Majority Report. The Minority Report, a very brief dissent from the Majority Report, is signed by the Rev. H. Russell Wakefield, Mr. F. Chandler, Mr. George Lansbury, and Mrs. Sidney Webb, all of whom were signatories of the English Minority Report; while the separate Memorandum bears, as we have said, the names of the Bishop of Ross and Sir Henry Robinson. The labours of the Commissioners, as far as Ireland is concerned, were much spared by the fact that they felt themselves, at least those who signed the Majority Report did, able to adopt the greater part of the recommendations for the reform of the Irish Poor-law which were published by the Viceregal Commission in Ireland shortly after the appointment of the Royal Commission.[1] An interesting historical summary of Irish Poor-law administration is given in the latest Blue-book, and the various points in which the recommendations of the Viceregal Commission fit with the proposals already made by the Royal Commission for Reform of the Poor-law in England are considered favourably. The gist of the report consequently is the recommendation of the establishment of a Public Assistance Authority to take over the work of boards of guardians, which will be abolished, and to control the Dispensary Medical Service, which it is proposed to turn into a proper county service with a county superintendent and bacteriologist.

MEDICAL MEN AND THE BUDGET.

WE are not a political journal, but when political proposals seem likely to bear hardly on the members of our own profession it is our duty to protest. And there is one tax which as it stands at present—and the clause in the Budget which levies this tax has already passed the Commons—bids fair to weigh heavily upon an overworked and underpaid class of medical men—namely, the general practitioner in the country. This tax is the impost of 3*d*. per gallon on petrol. One of the chief Government organs in its issue of April 30th remarked: "Private motor cars are always a luxury, and often an anti-social luxury." As regards cars used by medical men, they stand on exactly the same footing as the bicycle which many working men use to carry them to and from their work. If the one is a luxury so is the other. Both classes use mechanical methods of transit, first on account of cheapness, and secondly because by so doing they get a little more leisure than they otherwise would. Before the advent of the motor-car many general practitioners worked with horses from 14 to 16 hours per diem, but when they gave up horses and took to a car they were enabled to obtain some three or four hours more leisure than before. This may be luxury, but it is certainly not anti-social. The tax will press heavily upon such men as these. Take a concrete instance. In one district of the South-East of England are some 40 medical men, of whom at least 30 drive a car. The average net income of these men is from £600 to £700 per annum and the new tax will impose an extra burden upon them of from £5 to £15 yearly according to their mileage. In more scattered districts the burden will be far heavier. Many medical men in hilly districts in Wales and Yorkshire drive from 7000 to 10,000 miles a year and will have to pay over £20 in tax for their petrol. The rebate allowed to medical men in their car tax will practically make no difference, for as the duty stands at present a medical man pays a duty of two guineas for his car. In future a medical man driving a car under 16 horse-power, and we may say that hardly any general practitioner drives a more highly powered one, will pay exactly the same, that is to say one half of £4 4*s*. The medical man should at least be allowed the rebate on his petrol, which is to be allowed to motor omnibuses and motor cabs. For too long has the medical profession been made the scapegoat of Governments. Day by day new duties are imposed upon it without any corresponding pay, and at least in one case with a penalty attached if the new duty is not carried out. The recent Budget places a heavy tax upon many general practitioners, which is accompanied by a concession which is of no real value.

[1] These recommendations were published at length in THE LANCET of Nov. 24th, 1906, p. 1460.

MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN: THE LONDON COUNTY COUNCIL AND THE CLAIMS OF THE MEDICAL PROFESSION.

WE publish this week a synopsis of an interesting statement issued to members of the London County Council on the subject of the medical treatment of London school children (see p. 1343), and in another column (see p. 1347) will be found a strenuous letter from Dr. H. Beckett-Overy pointing out the risk that there is in the present circumstances of the medical profession being considerably exploited. We hope and believe that this risk is not so acute as Dr. Beckett-Overy seems to think, and we do not suppose for a moment that the chairmen and secretaries of the London hospitals, whether they agree with any proposals made to them by the London County Council or no, will come to any decision in the matter without a proper consultation with their medical staffs. Our information here is to an exactly opposite effect to Dr. Beckett-Overy's. As a matter of fact, the whole question is at this moment before the authorities of the London hospitals, and we are able to say that the just claims of the medical profession do not appear in the least likely to go unsupported. The matter will resolve itself, of course, largely into the treatment of adenoids, deafness, and of various forms of inadequacy of sight and dentition, and to a certain extent the little patients would in any circumstances attend the hospitals for relief, and with perfect right, for many of them belong genuinely to the class for which the voluntary hospitals were established and are maintained. Referring now only to those who are proper objects of charity, the question is really whether special clinics set up by the London County Council and staffed by the education medical officers should do the work, or whether the hospitals should do the work. It is perfectly clear that the London County Council has no right to get the work done for nothing, and we credit it with taking this view and with not desiring to exploit the medical profession. If school clinics are founded, as seems to be the desire of the majority of the special committee of the Council dealing with the subject, it will fall to the lot of salaried medical officers to manage such clinics, and payment on some scale or other will duly follow. But all the patients are not proper objects of charity, and here it seems inevitable that the general practitioner will have taken away from him a certain number of cases which he could well deal with, whether the hospitals arrange to do the work or whether it is done by school clinics. In some general practices the number of cases lost may be quite considerable. With regard to payments made to hospitals by the London County Council, there will be a difference

of opinion as to their propriety. The hospitals ought to be paid, as a matter of abstract justice, because there is no reason why they should gratuitously relieve the burden of the London County Council by presenting it with the results of medical skill and service. But the difficulty presented by a voluntary charity staffed by unpaid officers accepting payment from the rates for work done seems almost insuperable. Such payment, while aggravating the difficult position of the general practitioner, is a large step towards that municipalisation of the hospitals for which we are not yet prepared, and which, if and when it comes, must bring with it the adequate payment of the medical staffs. There are some good arguments against the utilisation of the hospitals in addition to those which have already been made known to the London County Council in the circular statement. To mention one more only, the Council might demand representation on the governing bodies of the hospitals in return for its subsidies, and this demand would, we take it, be refused by even those institutions now favourable to the scheme. Arguments in support of the alternative scheme of school clinics must, however, be scanty, as we have no practical experience of their working in this country. But we cannot see that the institution of school clinics would remove patients from the care of the general practitioner any more than subsidized treatment at the hospitals. Of one thing we feel sure, that the various committees of the hospitals will debate these points thoroughly, and will recognise the extreme gravity of the issues raised. Whoever does the work for the London County Council ought to be paid, and the idea of using the honorary services of the medical staffs in return for a grant to hospital funds seems to us monstrous. Is it not a case in which the opinion of these staffs might be consolidated by some meeting among themselves?

OUR BLEACHED DAILY BREAD.

IN our columns on March 20th and March 27th respectively two annotations appeared under this heading which, it has been suggested to us, require modification in view of a judgment delivered by Mr. Justice Warrington on April 28th in the case of the Flour Oxidizing Company, Limited, *v.* Hutchinson. Our notes had nothing whatever to do wittingly with this case, which is not alluded to in any way, and of the existence of which we had no knowledge; but we are informed that the statements made by Mr. E. F. Ladd and Mr. H. L. White in the *Chemical News* of March 19th, referred to by us, were made the subject of actual investigation in the action and that the evidence of Dr. A. P. Luff, Dr. W. H. Willcox, and Dr. W. D. Halliburton led Mr. Justice Warrington to the conclusion that the process, or some similar process, employed by the Flour Oxidizing Company, Limited, had no injurious effect on flour. Mr. Justice Warrington, after pointing out that the method employed by the Flour Oxidizing Company would render it less likely to be attacked by mites and other organisms, went on to say, relying on experiments made by Dr. Halliburton, "the result, in my opinion, of the whole of those experiments, taking them as a whole, is, that so far as the bread made from the flour is concerned, which is the important part, there is no substantial difference, in point of digestibility, between the bread made from the untreated flour and the bread made from the treated flour." Upon the question whether the flour had had imparted to it certain toxic qualities by the plaintiffs' process, Mr. Justice Warrington considered that the experiments of Mr. Ladd, to which we alluded in our annotation on March 27th, failed to prove this point. "Dr. Willcox and Dr. Luff," he said, "who are two of the most eminent men in their branch of the medical profession, have made experiments on rabbits with concentrated extracts of flour bleached under the plaintiffs' process, and they made those extracts following minutely the directions given by Dr. Ladd, and they have administered them to rabbits—a large number—have kept those rabbits under observation for many days after administration, and have observed no effect on the rabbits beyond temporary intoxication caused by the fact that the extract was alcoholic." His lordship added that he found no positive facts that the nutritive quality of the flour was deleteriously affected by the process.

THE NATIONAL LEAGUE OF PHYSICAL EDUCATION AND IMPROVEMENT.

THOUGH we who have our part in the complex civilisation of the twentieth century be in truth the heirs of all the ages of science and invention and philosophy, it is certain that our forefathers have not handed down to us the full endowment of their more ancient heritage. It is, for instance, a safe assertion that the Athenians of the fifth century before Christ held in far higher regard the physical culture of their sons and daughters than we in England to-day in spite of the boast of our national devotion to athletic pursuits, and in spite of our scientific knowledge of the principles upon which sanitation must be based. We do not, of course, mean that their death-rate was not more than ours (though their infant mortality was surely no greater), but that every family set up for itself an individual ideal of health unknown in modern England. The reason was, of course, that the Greeks were inspired with an æsthetic motive that would only be satisfied by the training of the human body in such a manner as to fit it for the honour due to the highest material expression of beauty, with the result that the Grecian form, perpetuated in Grecian marble, has been the wonder and the despair of generations of artists in far later centuries. And granting that the Greeks were powerless to protect themselves against the ravages of infectious disease, granting that the communal hygienic arrangements in the days of Pheidias were in no degree comparable to those of a modern city, still we believe that their intense love for physical perfection in a country where sunshine, fresh air, and good food were everybody's birthright produced a national result which is as unattainable by the modern social reformer as the great spirit of Grecian art is remote from the modern studio. But there is more than one road up most mountains, and if we cannot expect that an improvement will be effected in our national physique by an appeal to the nation's æsthetic perceptions, it is not too much to hope that it may be brought about by first adding to the nation's knowledge of the rules of health and disease, and then appealing to its common sense to apply them. Education, in a word, must be the spirit moving through the land to teach the masses of our people that what was good enough for their fathers in the matter of physical well-being is not good enough for them. Legislation and inspection may indeed afford the machinery for a faultless national hygiene, but it must remain ineffective in the main if in the tenement houses and cottages throughout the country there is not an intelligent appreciation of the reasons behind sanitary laws and of the great benefits which will accrue to those families that scrupulously obey them. Of recent agencies which have arisen for the diffusion of such knowledge, the National League of Physical Education and Improvement is pre-eminently active in promulgating the gospel of health. We have already announced the delivery of several lectures and addresses under its auspices, and now have to record the widening of its appeal at a Mansion

House meeting held at the end of April under the presidency of the Lord Mayor, at which such influential speakers as the Bishop of Ripon, Lord Halsbury, the Duke of Argyll, Sir Henry Craik, and Sir John Tweedy spoke in favour of the objects of the league, aims which are fairly summarised in its title. Resolutions were carried proclaiming the "imperative necessity for the provision of pure milk in order to lessen the appalling mortality that at present prevails among infants" (a resolution to which it will be remembered that Mr. John Burns is pledged to give early legislative effect); and proclaiming "that in the interests of the physical welfare of the coming generation provision of health visitors is of cardinal importance," a course which the league is urging upon local authorities; and "that physical education should be made compulsory in all schools, subject to proper medical supervision." These three resolutions embody a strong programme, and if adequate and widespread effect can be given to these alone by the league they would well justify its existence. We would repeat our advice that the league should make its first object the education of the people. It can do no greater service than to make fertile the soil to receive such legislative sanitary seed as may in the future fall upon it. It is true that many years have elapsed since Beaconsfield uttered his dictum that the nation's health should be amongst its statesmen's first duties, and we know that the health of our country is still a long way from occupying so prominent a position in our affairs of State. But when we think of what has been effected in sanitary reform during the last 50 years we have a great deal to be thankful for, and we repeat that when every child is taught how to keep healthy, and that to do so is a prime duty of citizenship, we may hope for a revival of the Grecian spirit that reverenced the perfection of the body only less than it abhorred its deformities.

APRIL AT HOME AND ABROAD.

THE month that has just elapsed was remarkable for its brilliancy in the United Kingdom and for its dryness over the greater part of southern Europe and the Mediterranean. It is very seldom that so great a quantity of sunshine distinguishes the month in this country, and according to the records since the observations began to be general 28 years ago there are only two Aprils with such a brilliant record. The first was in 1893, when the weather was really summer-like and almost entirely rainless, and the other occasion was in 1906. During both months the sunshine figures were about equal to those of the month under discussion over the major portion of England, but some localities have never enjoyed before such a bountiful supply of April sunshine. Among the number of these is London (Westminster), where the grand total of 220 hours exceeded the average by 106 hours, and also exceeded the averages for the summer months of June, July, and August. The midland counties and some northern cities were also remarkably bright, the total number of hours at Manchester, a place where the sun is so often obscured by smoky fog even when there is no cloud, amounting to 192 hours, while at Nottingham the month's record was 238 hours, a figure fully 100 hours in excess of the normal. Over the kingdom generally the temperature was about two degrees above the average, and the diurnal range usually small for the time of year. Very fine weather was also the rule over the Mediterranean region and the Spanish Peninsula, rainy days being extremely rare, and the sky generally almost free from cloud, while the temperature made a striking advance towards its summer figure. As is invariably the case at this time of year, Italy and all the southern parts of France were much warmer than the warmest spots in this country, and Paris, which during the winter months is nearly always colder than London, was very appreciably warmer, the mean warmth of the afternoon being as much as 6° greater. At Algiers the mean temperature of the daytime equalled the day average of June in London, while its nights were slightly warmer than the average night of the London July. The most agreeable weather of all was probably experienced at Madeira, where the maximum warmth of the days was never less than 63° and never greater than 68°. During more than half the month the maximum temperature was either 66° or 68°, and except on one day the period was entirely rainless.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean diurnal range of temperature.	Number of days with rain.	Total all in month.
	°	°	°	°	°	°		
Scilly	60	43	56	47	51·6	9	14	2·03
Jersey	71	37	58	45	51·2	13	7	0·90
Torquay	68	38	56	44	49·9	12	5	1·76
Weymouth	67	34	55	43	49·0	12	9	1·17
Bournemouth ...	70	30	57	41	48·9	16	8	1·31
Brighton	65	31	57	42	49·7	15	5	0·88
Bath	72	29	59	39	49·0	20	10	1·87
Harrogate	68	28	55	37	46·1	18	15	3·31
Buxton	65	24	55	35	44·9	20	16	3·53
Manchester	67	30	57	41	49·1	16	13	3·01
Nottingham ...	69	28	58	38	47·9	20	9	1·34
London	70	34	58	42	50·1	16	9	1·96
Paris	77	29	64	42	53·0	22	7	1·39
Brussels	78	27	59	41	50·3	18	14	2·29
Berlin	70	27	57	40	48·5	17	16	1·88
Nice	72	29	63	47	54·9	16	4	0·32
Florence	80	38	67	47	57·2	20	1	0·04
Rome	80	41	67	50	58·5	17	3	2·08
Naples	79	42	65	52	58·4	13	4	1·74
Palermo	87	41	67	49	58·0	18	5	0·75
Malta	72	48	65	55	60·1	10	2	1·48
Palma, Majorca ...	79	39	66	51	58·5	15	3	0·75
Algiers	91	48	69	55	62·1	14	5	0·44
Biarritz	81	37	64	49	56·5	15	5	0·83
Lisbon	77	50	68	54	61·1	14	1	0·04
Madeira, Funchal.	68	48	66	50	58·0	16	1	0·12

ENDEMIC HÆMATURIA.

SINCE 1852, when Bilharz showed that endemic hæmaturia was due to the presence in the body of a special form of distomum, no doubt has ever been cast on the correctness of his demonstration, and the causal connexion of the hæmaturia and the organism has been acknowledged by all. A further problem, however, in regard to the disease has not yet been satisfactorily solved. This question is the mode of entrance of the bilharzia into the body. The generally received opinion is that it is taken in with drinking water, and makes its way into the blood-vessels and by the blood stream is carried to the urinary organs. One argument against this view is that monkeys and other animals which have been fed with free embryos have not become infected with the disease. This argument is of some weight, but too much stress must not be laid upon it. It is at least curious that the eggs have never been detected in the stomach. Dr. James F. Allen of Pietermaritzburg has had an extensive experience of the disease, for it is extremely prevalent in Natal, and he has held for some years the opinion that the organism enters the body, not by the mouth, but by the urethra and sometimes by the anus. In the present issue of THE LANCET (p. 1317) he makes

a further contribution to the subject, and he claims that the symptoms demonstrate that the urethra is affected before the bladder, and the bladder before the kidneys. He holds that the entrance of the distomum occurs during bathing, and that its entrance is favoured by a long foreskin, as the water containing the worm then remains in contact with the meatus sufficiently long to allow the worm to enter the urethra. Dr. Allen finds that if precautions be taken to prevent the entrance of the worm the disease does not occur, or if the patient has already become infected further infection is prevented. We would not venture to express a decided opinion on so difficult a matter, but it cannot be denied that there appears to be some ground for Dr. Allen's contention, though he has not yet succeeded in proving his thesis. Further observations and further experiments are required before this important question is conclusively settled.

AERIAL NAVIGATION: PAST, PRESENT, AND FUTURE.

LITTLE did Horace imagine when he moralised over the ill-inspired daring of a Daedalus who essayed to "wing the blue depths"—

"Pennis non homini datis,"

or when he dwelt on the vain ambition of an Archytas—

"Aërias temptasse domos,"

that a few miles out of Rome, on the way to his beloved Tibur, an airship would one day be seen describing all manner of liquid curves at an altitude of many hundred feet from the ground, and that having covered 60 *milia passuum* (Roman miles) it would descend triumphantly to the greensward from which it took flight, bearing on board a crew of distinguished passengers to receive the congratulations of a crowd of Quirites on their having, after careering through the heavenly spaces, touched *terra firma* in safety once more! Such, indeed, was the spectacle afforded in the past Easter week at Rome by Mr. Wilbur Wright who has recently visited England—a spectacle that set the thousands of eye-witnesses athinking on the potentialities of a new form of locomotion, whether in the interests of peace or in the interests of war. Not for the first time has aerial navigation been an accomplished fact, as M. Fraikin, in the *Revue Ebdomadaire*, has just reminded us. But the eighteenth century flights to which he refers were quite wanting in the means of directing and controlling movement, above all in the "staying power," so successfully realised by the American mechanician. Leaving the combatant or strategic aspects of the now fairly launched airship to the military and naval experts of the rival nationalities, we may pause for a moment to contemplate the resources it offers to the invalid requiring change, whether climatic or atmospheric, or in quest of new conditions in the matter of warmth or coolness, or, hygienically considered, of escape from the unlovely, unwholesome neighbourhood of the crowded centres of population and industry. Some 15 years ago THE LANCET opened its columns to suggestion and discussion in this sense, and if the subject dropped before getting beyond the stage of a "pious opinion," its being started at all was symptomatic of a dim presentiment that science was ripe for some such new departure as that of which Mr. Wilbur Wright is the "hero and eponymus." Even the captive balloon, it was then maintained, might have its uses in vouchsafing the invalid an interval of respite "far from the madding crowd" or in forming a variety of "rest cure" not unwelcome to many a valetudinarian who had exhausted the traditional "alteratives" in favour with such cases. All this, we repeat, is only referred to as showing in the not distant past a dim consciousness that an unexplored, unattempted field of therapeutic utility was awaiting the advent of the mechanician ingenious enough and persevering enough to overcome obstacles hitherto held to be insurmountable, and to prove once more the truth of the Baconian induction that there is no limit to what human inventiveness can achieve when working, with the due equipment, on the lines of experimental science.

TRANSMUTATION OR IMPURITY?

THE theory of electrons, which would teach that all elements are fashioned out of one prime material, and that the form which the element ultimately takes depends on an amount of energy represented by more or less electrons, is so attractive that fresh facts which appear to support this view will be welcomed. An experiment described in the *Chemical News* of April 30th at first sight seems to supply some evidence of the resolution of one element into another by exposing it to the influence of high potential discharge. The results are communicated by Mr. Bayard G. Cobb of Dawson City, Yukon, Canada. Minute precautions were first taken to prepare an absolutely pure amorphous gold by methods well known to chemists. The pure gold was then placed in a tube furnished with rubber corks carrying electrodes connected with the terminals of the high tension windings of a 10-inch induction coil. A current was passed and a spark was discharged through the tube containing the gold for half an hour, at the end of which time the amorphous element was withdrawn and examined. The gold showed radio-active properties, but, more important still, on dissolving it in aqua regia and examining the solution, copper was undisputably found to be present. The experiment was repeated four times with a similar result every time. Another tube was fitted up, but this time it was made partly vacuous. "On the passage of the current for three-quarters of an hour, subsequent solution, and analysis the presence of a copper salt was shown in even more marked degree." The electrodes employed were pure platinum. If this experiment succeeds in other hands (and the details and manipulation are so obviously simple that many other investigators will be ready to try it), an easy and striking method of demonstrating the degradation of one element to another, or a re-arrangement of electrons, is afforded us. The suggestion of impurity as an explanation of the presence of copper in the gold is irresistible, though perhaps ungenerous. Still, Mr. Cobb has promised to continue the work in order to clear up this portentous point. After all, there is no reason why, if the theory of degradation is true, we should not, with the great electric energies at our disposal, be able to establish the principle, even if it is only on a small scale. It is the small scale, however, which makes difficult the task of eliminating the question of impurities. In any case, the evidence so far points only to transmutation downwards and not upwards having been achieved, and the latter eventuality would be more exciting to fiscal circles.

THE TREATMENT OF NEURALGIA AND FACIAL SPASM BY INJECTIONS OF ALCOHOL.

IN the present issue of THE LANCET we print an interesting article by Dr. Wilfred Harris on the Alcohol Injection Treatment for Neuralgia and Spasm. Dr. Harris has been largely responsible for introducing the valuable procedure which he describes into this country, and his paper will be read with profit. The method of treating trigeminal neuralgia by the injection of a few minims of 75 or 80 per cent. alcohol into the sheath of one or other branches of the nerve has now passed beyond the experimental stage and is meeting with increasing favour. Injection of the seventh nerve for facial spasm has been the natural sequence, and Brissaud, Sicard, and other French physicians

have already recorded satisfactory results. The disadvantage of the method lies in the production of facial paresis or paralysis, but this is a transient phenomenon. In very mild cases no doubt the possibility of paralysis does not justify the adoption of the injection method, but for severe cases it is a procedure both easy and effective. Dr. Patrick of Chicago has published in the *Journal of Nervous and Mental Disease* for January the history of three patients treated in this way and has followed them for more than six months. In two instances of severe facial spasm a perfect cure has been the result, the facial paralysis subsequent on the injection having entirely vanished in the course of some months. The third case was unsuccessful; "needless to say (comments the modest physician), the failure was not due to the method but to the operator." The technique is simple, but the details must receive minute attention. Under aseptic precautions an ordinary long hypodermic needle is introduced immediately in front of the mastoid process to reach the nerve at its exit from the stylo-mastoid foramen. By this means 20 minims of 75 per cent. alcohol, containing a little cocaine, are injected into the nerve, and success is indicated by instantaneous cessation of the spasm and development of complete peripheral facial paralysis in the course of a few moments. That precautions are necessary is, of course, obvious, for it cannot be pleasant, as Dr. Patrick narrates, to record not merely an utter failure to produce relief, but to hear that some days later the patient has an auditory meatus full of bloody pus. It is true that in the case where this occurred the mischief soon cleared up, but the spasm remained uninfluenced. Dr. Harris in his paper, which is mainly concerned with trigeminal neuralgia (see p. 1310), mentions that he has treated three cases of facial spasm by injecting 80 per cent. alcohol around the nerve. This causes slight paresis but immediate cessation of the muscular spasms. If the alcohol is injected into the nerve facial paralysis results, although this disappears in from two to three months. In all operations of this kind Dr. Harris points out the necessity for the strictest asepsis.

THE EXHIBITION OF THE ROYAL ACADEMY.

THE 141st exhibition of the Royal Academy of Arts was thrown open to the public on May 3rd, and the public will find, as it is beginning to consider should be the case, that Mr. Sargent has produced the most striking work in the exhibition. But it is not on account of his portraits, admirable as is No. 179, "The Earl of Wemyss," that we say this, but on account of two other pictures, the one (No. 446) a decorative design entitled "Israel and the Law," and the other (No. 496), called "Cashmere," a little procession of women robed in soft greyish drapery. Of portraits of particular medical and scientific interest there is No. 89 by Sir Luke Fildes of Sir William Allchin, a good picture; No. 246, by Mr. Solomon, of Dr. Ludwig Mond; and No. 424, of Dr. Charles Drage, by Miss S. C. Harrison. Other striking portraits are No. 60, of Mrs. Greiffenhagen, by Mr. Maurice Greiffenhagen; No. 80, by Mr. J. J. Shannon, of the Misses Tennant; No. 109, by Mr. Melton Fisher, of the three Misses Lyster; No. 293, by Mr. J. H. F. Bacon, of Sir Charles Santley; Nos. 404 and 408, of Lady Binning and the Countess of Ronaldshay respectively, by Mr. George Henry; No. 435, by Mr. Charles Sims, of Mrs. Harold Phillips; and No. 678, a portrait, amazingly clever, scarcely beautiful, and blatant in colour, by Mrs. A. L. Swynnerton, of Mrs. Fenwick. The portraits this year are a feature of the Academy display. Of other pictures which will attract attention we may mention No. 3, "The Night Piece to Julia," and No. 528, "Ephemera," by Mr. Sims; Mr. Arnesby Brown's No. 19, "The River"; Mr. G. Clausen's No. 25, "The Interior of an Old Barn"; Mr. Chevallier Taylor's "The Anniversary," No. 35; Mr. MacWhirter's four antithetical landscapes—namely, No. 41 and 44, "The Old Harbour at Genoa" at evening and morning respectively, and Nos. 102 and 106, "The Riviera" looking towards Italy and France respectively; and Mr. A. Wardle's No. 296, "A Bacchante." Mr. Waterhouse, No. 114, and Mr. Draper, No. 198, have each sent their conception of Lamia. Mr. Waterhouse's "Lamia" is his familiar and beautiful young woman depicted "fair, on a sloping green of mossy tread" with her serpent skin in her lap, "vermilion spotted, golden, green, and blue." Mr. Draper's "Lamia" is also in the woman state and has the old serpent skin around her all transparent and colourless, but, like poor "Elsie Venner," she shows her serpent character in her narrow forehead and her curious eyes. Further, she apparently has an enlarged thyroid gland. Mr. Draper's other picture, No. 206, "Ulysses and the Sirens," is somewhat of a puzzle. Ulysses is represented tied to the mast and his eyes are gazing at something far away. The ship is invaded by three charming young women, one of them a mermaid, who have their mouths open as if they were singing, but Ulysses is not looking at them. Are they the sirens or are they sea nymphs who have come to help him and his crew? Any way, the picture is well worthy of notice. Mr. George Harcourt, whose very clever picture, "Supper in Summer-time," was a feature of last year's Academy, has another sound and adroit piece of work this year, No. 218, "The Tracing," and Mr. Campbell Taylor sends a notable study in black, white, and grey, No. 322, called "Bedtime." Mr. F. Sydney Steel has a good picture which is unfortunately skied, No. 396, showing "Shetland Ponies in a Storm." We feel sure that Mr. F. O. Salisbury in his skilful picture, No. 323, "The Quest of St. George," should not have dressed his ecclesiastics in the vestments of the Western Church and those, too, of quite a late pattern. In Gallery IX. are two delightful little landscapes, Nos. 484 and 574, by Mr. Albert Goodwin; and in Gallery No. XI. is one of the best pictures of children in the exhibition, entitled "Us," by Mr. Keith Henderson, No. 701.

THE HEAT PRODUCED BY THE HEART'S CONTRACTION.

THE heart by its contraction produces heat as well as the mechanical work necessary for purposes of maintaining the circulation. Professor Sigmund Exner, in a paper read before the Royal and Imperial Society of Physicians in Vienna, and recorded in the *Medicinische Blätter* of April 10th, discussed the means by which the heat so produced is dispersed and the heart prevented from being overheated. He pointed out that whereas in cold-blooded animals the heart is often at a distance from the lungs and in many of them is surrounded by the liver, in warm-blooded animals it is closely invested by the lungs, and in birds by the air sacs. He has calculated that in man about 322 Calories of heat are abstracted from the body daily by means of the lungs, 80 being employed in warming the expired air and 242 in saturating it with water vapour. He estimated the heat produced by the heart at about 70 Calories daily, and he suggested that this was in part given off to the surrounding organs, especially the lungs. Some experiments by Yoshimura, in the physiological laboratory at Vienna, by means of thermo-needles, showed that the walls of the ventricles were about half a degree warmer than the lungs and that the farther the spot investigated was from the heart the cooler its temperature was. The wall of the left ventricle showed a higher temperature than the blood contained in it, and with the heart exposed the difference might be as much as two degrees. The blood in the

left ventricle was found to be lower in temperature than that in the right, which is attributed to the fact that the blood coming to the right side is brought from regions in which active processes of oxidation are in progress. Professor Exner stated that the heart gives off one-fifteenth to one-tenth of the heat produced by it from its surface, and that if this loss be prevented by surrounding the heart with a non-conductor its temperature rises. The right ventricle is not surrounded by the lungs, and owing to its thinner walls and to the comparatively small amount of work it has to do—viz., only about one-seventh or one-eighth of that of the left—the importance of its cooling is less. Dr. Max Herz criticised Professor Exner's conclusions, and suggested that the blood circulating in the coronary vessels was of much greater importance in abstracting the heat produced by the heart's contraction than the loss from the surface to the lungs. It is obvious that the heat produced by the heart's contraction must be rapidly dissipated, and it is probable that both factors play a part.

RIGHT AND LEFT HANDEDNESS.

Dr. James Taylor has sent us a suggestive note on the subject of right and left handedness, in which he first reminds us that the reason why one man is right-handed and another left-handed, or rather why 98 men out of 100 are right-handed and the remaining two are left-handed, has never been satisfactorily explained. He proceeds to disclaim any intention at present of attempting the missing explanation of this fact, merely wishing to set out clearly the existence of certain conditions which, so far as he is aware, have not been clearly recognised. Pure right-handedness and pure left-handedness we all know, but there are two other varieties of "handedness" in which there seems to be a mixture of the two conditions. The purely right-handed man uses his *right* hand for all purposes for which one hand is used, to throw a stone, to cut bread, to play lawn tennis, or to use a fencing foil. The purely left-handed man uses his *left* hand for all those purposes. (In reference to this, writing must be left out of account, for no boy or girl, no matter how left-handed he or she may be, is ever allowed to learn to write with the left hand.) To put it briefly, the really right-handed man uses his right hand for all single hand actions; the truly left-handed man uses his left hand for all similar single hand actions. When, however, Dr. Taylor continues, as in certain games like cricket and golf, and also in swinging an axe or a two-handed hammer, both hands are used, we sometimes find that the man with true right-handedness for single hand actions—e.g., lawn tennis and bowling—bats left-handedly and plays golf left-handedly. And, conversely, we frequently meet with the man who plays lawn tennis with his left hand and bowls with his left hand and yet bats and plays golf right-handedly. So that four different classes can really be distinguished: (1) those who are right-handed for single-handed actions—e.g., lawn tennis, bowling, fencing, &c.—and also for two-handed actions—e.g., batting at cricket and golf; (2) those who are left-handed for single-handed actions like lawn tennis and bowling, and who also bat and play golf left-handedly; (3) those who for single-handed actions, like bowling and lawn tennis, use the right hand and yet bat and play golf left-handedly; and (4) those who for single-handed actions, like bowling and lawn tennis, use the left hand and yet play golf and bat right-handedly. Dr. Taylor claims that no one at all familiar with the subject will dispute the existence of those four classes, although in the present note he does not inquire how they arise. The explanation of the origin of the third and fourth classes involves a problem of particular interest. He suggests that its solution would be helped by an inquiry directed to discover whether individuals in these two classes of what we may call "mixed-handedness" are as expert in the double-handed games as those in the classes of what we may call "pure-handedness." *A priori* he would scarcely expect them to be, because in these instances the naturally dominant hand is reduced to a subordinate position in the double-handed actions. And he would expect those to excel in the double-handed game in whom the dominant hand is allowed to have its natural position of dominance. The point which is thus raised deserves examination by psychologists and physiologists alike, and we hope that Dr. Taylor may find opportunity to throw light upon the existence of "mixed-handedness" in a further communication.

MILK, GUINEA-PIGS, AND THE LONDON COUNTY COUNCIL.

AT the meeting of the London County Council on May 4th the Public Health Committee reported that 1025 samples of milk had been examined under the General Powers Act of 1907 for the purpose of ascertaining whether tubercle bacilli were present. It had been found that the subcutaneous injection of material from 167 samples into guinea-pigs caused their death from some acute infection, the nature of which was not ascertained. These deaths made it impossible for the Lister Institute which had carried out the investigation to report whether the samples were tuberculous, but it was willing to continue its investigations for at least 12 months at a cost of £330, and the committee recommended that this expenditure should be sanctioned. The recommendation was discussed in connexion with the annual estimates which contained an item in respect of the proposed expenditure. Mr. Whitaker Thompson moved the deletion of the estimate. He doubted very much whether the Council had power to subsidise the Lister Institute in order that that institution might make experiments upon guinea-pigs. He found a seconder in Mr. Felix Cassel, K.C. Mr. Gilbert Johnstone, chairman of the Public Health Committee, said that on grounds of common-sense the experiments must be made. Some acute infection, the nature of which they did not quite know, was present in a considerable percentage of the samples. It might be that there was a worse danger in the milk than tuberculosis. The committee felt that so grave a question must be dealt with as soon as possible. The amendment was lost and the estimate was approved. We are glad that the common-sense of the Council prevailed in this matter, as it is obviously of great public importance that further investigations should be carried out. At the same time, some explanation of the circumstances seems advisable to allay anxiety upon a report which appears very serious on the face of it. We understand that the reason why the early death of the guinea-pigs prevented the detection of tuberculous milk was that at the Lister Institute the result of a diagnostic inoculation is only pronounced negative when the animal has survived three weeks without developing any signs of tuberculosis, and that in these experiments the guinea-pigs died before this period of incubation had passed. The infection to which the guinea-pigs succumbed was of a somewhat complex nature which needs further research before a definite pronouncement can be made upon it, but in the meantime it should be pointed out that the inoculations were made with a highly concentrated centrifugalised deposit and that deductions should not be drawn too hastily from the alarming results of these experiments upon guinea-pigs to the probable effect upon human beings of the consumption of the milk from which the material for inoculation was derived. At the same time it is essential that all

possible information should be obtained upon the substance or substances in the milk which killed the guinea-pigs, and the Council could not have acted more wisely than it has in leaving the investigation in the hands of the Lister Institute of Preventive Medicine.

INSPECTION OF FOREIGN MEAT.

SOME years ago the Netherlands Department of Agriculture arranged a special system of inspection of meat intended for export from Holland to Great Britain and other countries. The services of Government veterinary inspectors were made available at the slaughter-houses concerned, a code of regulations was drawn up to guide inspectors as to condemnation, and an official label with an identification number was attached by a lead seal to each carcass which passed the inspector. The system was inquired into by the Local Government Board, and recognition was given to the official label, in the regulations made by that Department last year on the subject of foreign meat. The Dutch exporter whose animal was condemned by the inspector in Holland could, however, still send it to the British market without the official label, and in the case of pigs, which are mainly in question, many of the carcasses brought into British ports have in the past been uncertified. It is satisfactory, therefore, that the Netherlands authorities have now taken the further step of extending their meat inspection laws so as to provide that no fresh meat intended for export to the United Kingdom is in future to be shipped unless it has been inspected and officially marked as being in sound condition and free from disease. In the case of pork the term disease is understood to include tuberculosis in any degree. The Local Government Board has now issued a circular to port sanitary authorities (Foreign Meat, No. 4, of April 29th) notifying this change in the system of Dutch "official certification." The circular also deals with other matters relating to inspection of imported meat. Attention is drawn to frozen livers, kidneys, plucks, and other organs which are frequently imported in masses moulded to the shape of the box or bag containing them. The port sanitary authorities in London and elsewhere have recently caused samples of these packages to be thawed out, and have in several cases found their contents objectionable on account of the presence of disease or of decomposition in the centre of the mass. The circular insists on the necessity of the individual organs being separately frozen in the country of origin, and arriving in such a way that on opening the package the organs retain their natural shape and permit of individual examination. Separate freezing of small organs like sheeps' kidneys can be dispensed with only if the kidneys are packed in shallow boxes so that the frozen contents consist of not more than two layers of kidneys not tightly pressed together. In the case of packages containing frozen livers and lungs or "plucks," the circular states that it is specially desirable with a view to detection of disease conditions that the ordinary examination made of a consignment at the port of entry should comprise thawing out specimen boxes, even when the organs have been separately frozen. In THE LANCET of Feb. 13th, p. 475, we laid stress on the need for strictly applying the powers of the Food Regulations Act so as to stop the importation of this highly perishable form of meat in large frozen masses which are incapable of inspection or examination. It is satisfactory to find from this circular that the Local Government Board has decided that all frozen "offal" must in future be imported in such a way that its suitability for food can be ascertained when it arrives at British ports.

TUMOURS IN THE REGION OF THE HYPOPHYSIS CEREBRI.

IN the *Review of Neurology and Psychiatry* for April Dr. Purves Stewart has published a series of four cases of pituitary tumour in which the diagnosis has been corroborated either at operation or post mortem, and these cases present certain features of interest. One of the chief points to be noted is that the general signs of intracranial pressure are relatively slight. Headache is often absent, vomiting is rare, and optic atrophy of primary nature, rather than optic neuritis, is to be expected. The occurrence of primary optic atrophy is so frequent as to be of considerable value in framing a diagnosis. In no one of the four cases was acromegaly present in any degree, although in two the symptoms of tumour were of several years' duration, a fact which accentuates the truth of the remark that the causal relation between that disease and lesions of the pituitary body is very far from being clearly established. The classical visual signs of chiasma lesion, in the shape of bilateral hemianopia, or of blindness of one eye with temporal hemianopia of the other, were present in three of the cases, and are of the utmost diagnostic importance. In the other case the patient's mental condition was such as to prevent any examination of his visual fields being made. One feature which is brought out very distinctly in all the cases is the remarkable drowsiness of the patient. It is usually intense and often paroxysmal, lasting for hours, days, or weeks at a time. This pathological drowsiness in two of the cases showed curious intermissions; the patient was more or less constantly asleep in one instance, but suddenly had a lucid interval, during which he woke up and made a perfectly sensible will. The explanation of this symptom is still to seek. Evidence adduced to show that normal sleep is associated with a special internal secretion of the pituitary body is far from convincing. Perhaps it is the result of upward pressure on the third ventricle, or of cerebral anæmia produced by compression of the arteries of the circle of Willis. There can be no doubt of the frequency of loss of the menstrual function in women and of the genital function in men in association with disease of the pituitary body. The condition of so-called "pituitary eunuchism" has been noted in a large proportion of pituitary tumours, whether accompanied by acromegaly or not, and in both sexes this diminution of sexual activity is often associated with a tendency to an increase in the development of fat on the body. From the surgical point of view increased attention, more particularly in London and in Vienna, has been given to the question of operative interference in these cases, and successful results have been reported. In the *Johns Hopkins Hospital Bulletin* for April, however, Dr. Redford and Dr. Cushing raise the all-important question whether the pituitary gland is essential to the maintenance of life, and from a series of experiments they confirm the statement of Paulesco that total extirpation of the gland proves fatal. They consider, therefore, that surgical interference must be limited to removal of the tumour where it implicates the gland, or partial hypophysectomy in cases of hypertrophy of that structure.

A TELEGRAM from the Governor of Mauritius to the Secretary of State for the Colonies states that one case of plague with one death was reported during the week ending April 29th, and a telegram from the Governor of Hong-Kong, also received at the Colonial Office, states that seven cases of plague with seven deaths were reported during the week ending May 1st.

IT is proposed to present at the Twelfth International Congress on Alcoholism, to be held in July, 1909, in London,

an International Medical Temperance appeal to the rulers, teachers, and clergy of all nations. Many of the continental countries are already well represented by signatories. It is hoped that Great Britain and Ireland may not be behind-hand in the matter. It is asked, therefore, that all who are willing to sign will intimate the fact not later than May 12th to Mr. W. McAdam Eccles, 124, Harley-street, London, W.

THE next session of the General Council of Medical Education and Registration will open on Tuesday, May 25th, when the President, Sir Donald MacAlister, K.C.B., will take the chair at 2 o'clock P.M.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

Motor-cars and the Budget.

THE concession in the Budget under which medical men are to be allowed to pay a half duty on their motor-cars will be of small practical value, but the duty on petrol will be found burdensome by many practitioners.

The Question of Guarantee.

In the old days of motor-cars the guarantee given by makers to purchasers was usually limited to a period of three or six months and was merely an indemnity against breakages due to faulty material or workmanship, while the actual expense of refitting the broken part was generally charged for. Nowadays breakdowns due to faulty material or workmanship are of much rarer occurrence and most makers are disposed to be more generous in their undertakings and give even a three-year indemnity. A good many friends have asked me concerning this matter and I must say that if I was given the choice I should prefer a guarantee of one year instead of one for three years, if the former also included the actual expense of refitting as well as replacing. The expense when renewing some internal part may come to much more for dismantling and re-erecting the chassis than for actually replacing the faulty portion. Thus my advice to purchasers is, if possible, to get the maker to undertake to put in as well as to replace any defective part, and modern machines are now so trustworthy that I am sure few makers will decline to agree to these terms.

Concerning Lamps.

Many members of the profession use their cars for emergency night calls, and in many districts this means dark and probably unilluminated roads. On such occasions a head light is needed and one with power to light up the width of an average road, together with the big and little objects met with on the road, and yet for the sake of other users of the thoroughfare such head lights should not appear brilliant when looked at. It seems that these two essentials cannot be combined, and that those who may have to venture out when the air is heavy and misty and the roads are black and muddy must for their own safety, as well as that of others, carry a fairly powerful head light. If the driver is a little considerate, even a powerful head light should not be a worry to an approaching vehicle, as when one is noted the car can be slowed down and slightly turned away, and thus the main beam of light can be diverted. A single head light, if fitted in a good position in front of the car, is quite enough, and as only one is wanted, one with a self-contained generator will fulfil all requirements, and from 1500 to 2500 candle power is ample. Such are the Alpha No. 110 or No. 30, the Lucas "King of the Road," or the Bleriot Parabolique self-contained. These are kept by Messrs. Gamage of Holborn, Messrs. Brown Brothers of Newman-street, and most dealers in motor accessories. Of course, in addition, the usual side and tail lamps must be carried; those burning paraffin, such as the Ducellier or Lucas, are excellent. Those who carry accumulators should, by means of adaptors, attach electric lamps, which can be made so that they do not in any way interfere with the oil reservoir or burner, and both means of lighting may be used simultaneously. The wiring can easily be done, so that with one switch the two side lamps as well as the tail lamp are lit. Those who delight in interesting accessories can have a self-generating installation on their cars, with a small dynamo run off the engine which by an automatic switch lights the lamps and charges the accumulators, and the latter are turned on when the voltage of the dynamo becomes insufficient to properly light the lamps. An apparatus of this kind is made by the Electric Ignition Company of Birmingham, who are also the manufacturers of the E I C plugs.

Motor Ambulances.

The recent report of the Home Office Committee on ambulances for London street and other accidents certainly was in favour of those propelled by motor power, and I am sure that all who have had to convey patients in an ambulance drawn by a horse will agree with the conclusion. A good many motor firms are turning out ambulances, and I understand that the hire department of the Daimler Motor Company of 112, Wardour-street, London, are prepared to undertake this class of business. In every well-made ambulance the great advantage should be that a patient having once been laid on the stretcher need not be moved from it until the destination is finally arrived at, as the stretcher can be carried up and down stairs and slid into position on the car with the patient attached. This is the case with the Daimler ambulance, and by an arrangement the hot air of the exhaust can be made to pass through the car, which can thus be brought to and maintained at any required temperature. The car is light, well sprung, and seems comfortable for travelling, and well suited for its purpose. I am told that invalids have been taken in it as far as Dover, Bournemouth, and Salisbury, and that the patients and their medical attendants have expressed their complete satisfaction. Of course, over bad roads the movement may be felt more than in the saloon carriage of a train, or in an ambulance placed on a truck of a train, but this seems to be compensated for by the advantage of being able to move the patient from bed to destination without any shifting of the invalid. There is no carrying from ambulance over a platform into a saloon carriage or running the ambulance on to a railway truck. This I am sure all will agree is a great advantage.

Fitting Magnetos to Old Type Cars.

Probably the majority of roadside stops are due to ignition defects and there is no doubt that the modern high-tension magneto is more trustworthy than any other method of exploding the mixture. There is no reason whatsoever why owners should not have this advantage, even though their cars are of an old type. Of course, the best way to drive a magneto is by direct gearing or through the shaft that drives the water circulating pump. On many a still trustworthy and valued old mount this cannot be thus carried out. In all, however, there is a place somewhere near the crank case where a plate can be bolted. In this plate two slots are cut; through these a band can be passed which will hold the magneto in position. A small driving sprocket is then fitted to the cam shaft and another on the armature shaft and then by means of an ordinary cycle chain the magneto can easily be driven. Providing the chain is kept lubricated this improvised and simple arrangement will be found to answer well. If there is room on the car separate plugs can be fitted for this system, otherwise the plugs for the coil ignition may be employed. The number of magnetos now manufactured is fairly extensive. The Bosch, sold by the Bosch Magneto Co. of Store-street, London, and those manufactured by the Electric Ignition Company of Sparkbrook, Birmingham, are well known and most satisfactory. The makers will give all directions for fitting; the time of firing varies with the motor: with the ignition advanced, setting the magneto to fire when the piston is 16 millimetres from the top of the stroke answers well.

Motor Cleaning Materials and the Care of a Car.

The outward appearance of a car is frequently ruined by its first wash. This is especially so in the case of new cars on which the paint has not thoroughly hardened, and even when it has, too much elbow grease, unaccompanied by plenty of water, will scratch the work of the best coach painter. After removal of all mud, the body and panels should be further cleaned with a large, soft, wet sponge, then dried upwards and downwards, not side to side, with a chamois leather. The chassis, mud guards,

and wheels can then receive attention, and for these another sponge and leather should be used, as in this operation the cleaning materials may become greasy, and a greasy cloth will ruin the panels. A spoke brush is rather a dangerous weapon for the wheels, it is apt to scratch the paint, and I have noticed in garages where cars are turned out every day as if from the painter's shop that merely a hose and a very wet soft sponge are employed, and a soft white polisher or chamois skin for finishing off with. For engine cleaning ordinary cotton waste should be employed, and that or mutton cloths should be kept solely for the machinery, while separate cleaning materials are retained for the coach work, and if occasionally the scratched panels are touched up with a little varnish, the car should retain its smart appearance for a very long time. Waste and sponge cloths can be obtained at most oil shops. Messrs. Butterworths, Limited, of Roscoe Chambers, Liverpool, make a speciality of motor cleaning materials, and their 20*s.* assorted parcel shows a great saving over the method usually adopted of buying on the "hand-to-mouth" principle.

Economy in Motor Tyres.

Under this title Messrs. Harvey, Frost, and Co., Limited, of 27, Charing Cross-road, London, have issued a pamphlet dealing with the choice, care, and repair of motor tyres, together with most useful hints for economical running. This brochure will be sent free on application to the firm, and I am sure it will be of interest and use to all medical men employing automobiles.

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN: THE CASE FOR CLINICS.

IT will be remembered that the London County Council recently discussed the question of the medical treatment of school children on a recommendation by the Education Committee that the treatment be provided by hospitals and dispensaries with the aid of subsidies from the London County Council.[1] It now appears, from a statement issued to members of the Council on May 1st, that this recommendation represents the view of only a minority of the members of the special committee that went into the question. The majority reported strongly in favour of school clinics, on the dual grounds of efficiency and economy, and their views, though not adopted by the Education Committee, are to be included in an official publication dealing with the whole question, shortly to be placed on sale.

Under the head of efficiency the majority report states that the hospitals in the metropolitan area are not only concentrated in those areas in which there are fewest schools, but, further, the spatial accommodation in their buildings is in many cases inadequate or cannot be extended. The dispensaries in the metropolis are few in number, are not, as a rule, situated conveniently for the schools or provided with adequate accommodation, and in various large areas (e.g., one district in S.E. London with a population of over 300,000) there are no dispensaries. Mr. C. H. Warren, secretary to the Metropolitan Provident Medical Association, and Mr. T. H. Nunn, of the Council of Social Welfare for Hampstead, urged in the course of their evidence that the Council should grant financial aid to the organisations they represented, and Mr. Nunn suggested that if the Council decided to aid the existing hospitals and dispensaries no further public provision for the medical treatment of London school children would be necessary. The committee was informed, however, that neither the provident dispensaries nor the friendly societies referred to by these witnesses at present deal with the greatest and most difficult part of the problem—namely, the treatment of the teeth, eyes, suppurating ears, and other conditions which require continuous and skilled care and attention. Such cases, the committee was told, were dealt with by obtaining hospital "letters" for the patients.

The essence of the provident dispensary system consists in small periodic contributions by the parents, but to enable the Council to enforce these an important change in the law would be necessary, and the experience gained during the legal exaction of school fees from 1870 to 1891 showed that payments of that kind were difficult and expensive to collect. If, on the other hand, the suggested system of provident payments remained voluntary the education authority would have to discriminate in its treatment between children whose parents had or had not made voluntary payments in the past.

Treatment through dispensaries, says the report, if given in the presence of parents at the residence of the dispensary officers, would involve serious waste of time and wages, involving constant difficulty and friction, and would probably militate very seriously against the children receiving the treatment they would require. If new and specially equipped premises are to be provided for the dispensaries the costs must be borne by the Council, and they are not likely to be less than would be entailed by the provision of similar premises under the direction of the Council itself. The committee mentions that the school dental clinics set up in Brussels, Wiesbaden, Darmstadt, Mülhausen, and Strasburg have proved successful, and in conclusion states that the efficiency of the treatment provided at charitable or provident institutions, where both adults and children attend, would be less than that provided in a school surgery or clinic designed and equipped for the special needs of the school children. Such surgery or clinic could be established in a house situated at the centre of a group of schools, enabling children to be brought to it with the maximum convenience and saving of time. The treatment in such a school clinic would be furnished by school medical officers under the immediate direction of the Council.

On the question of economy the majority report points out that payments to institutions and departments founded for other purposes probably would not offer such returns as money expended in the maintenance of a school surgery or clinic arranged and reserved for the direct purpose of treating the defects of the children referred. It must also be evident that the indefinite series of payments to a large number of separate institutions, and the endless adjustments and assessments of payments to the medical staffs of these institutions, can only result in inextricable financial confusion and possibly extravagance, whereas the administration of school clinics by the education authority can be financed with accuracy and economy.

Finally, the majority report remarks that the proposal that the State should subsidise from public funds charitable medical institutions, in order to create a claim on the benefits of such institutions for children or persons under State authority, educational or Poor-law, raises a new and serious question of principle. The representative meeting of the British Medical Association has already fully considered the question, and is resisting the proposal on the ground that any State medical service must be adequately organised, must be administered on a systematic basis, and must be clearly distinguished from work undertaken for charitable motives.

On May 5th the Education Committee considered the Council's instruction to prepare estimates of the cost of treating the various diseases from which the children suffer, and in spite of a protest by Dr. Beaton against further delay referred the question to the special committee.

[1] THE LANCET, April 10th, 1909, p. 1070.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on April 29th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The following Members were, on the nomination of the Council, elected Fellows of the College: John Edward Squire, C.B., M.D. Lond.; Theodore Stacey Wilson, M.D. Edin. (Birmingham); Charles John Macalister, M.D. Edin. (Liverpool); George Harold Arthur Comyns Berkeley, M.B. Cantab.; Robert Oswald Moon, M.D. Oxon.; Clive Riviere, M.D. Lond.; Oliver Key Williamson, M.D. Cantab.; Francis Arthur Bainbridge, M.D. Cantab.; John Shields Fairbairn, M.B. Oxon.; Otto Fritz Frankau Grünbaum, M.D. Cantab.; Joseph Shaw Bolton, M.D. Lond. (Liverpool); Charles Bolton, M.D. Lond.; and Llewellyn Caractacus Powell Phillips, M.D. Cantab. (Cairo, Egypt).

The following gentlemen having passed the required examinations were admitted Members of the College: Clifford Beards, B.A., M.B. Oxon., L.R.C.P.; Edward Alfred Cockayne, M.B. Oxon.; Donald Elms Core, M.B. Vict.; William Griffith, M.B. Vict.; Frederick Gowland Hopkins, M.A. Cantab., M.B. Lond., L.R.C.P.; Leonard George Joseph

Mackey, M.D. Birm.; Percy Whittington Saunders, B.A., M.B. Toronto, L.R.C.P.; Henry Charles Gustavus Semon, M.A., M.B. Oxon., L.R.C.P.; and Arthur Stanley Woodwark, M.B. Lond., L.R.C.P.

Licences to practise physic were granted to 91 gentlemen who had passed the necessary examinations.

The following communications were received:—1. From the Board of Trade, March 26th, on Beri-beri, in continuation of previous correspondence in 1908. The matter was referred to the Standing Committee on Beri-beri. 2. From Dr. Raymond Crawfurd, asking permission to photograph the portraits of Sir Charles Scarburgh and Sir Edmund King in possession of the College. Permission was granted. 3. From Mr. Leverton Harris, M.P., asking permission to photograph the portraits of Dr. Cadogan and Sir G. Baker in possession of the College. Permission was granted.

The PRESIDENT announced that he had nominated Dr. S. H. Habershon to represent the College at the 350th anniversary of the foundation of the University of Geneva to be held in July next, as Dr. W. Pasteur would be unable to attend.

The PRESIDENT also announced that he had nominated Dr. E. I. Spriggs as one of the delegates of the College on the committee appointed to confer with the delegates of London University as to degrees for London medical students.

Sir William Allchin was elected a representative of the College on the Senate of the University of London.

The by-law for the admission of women to the examinations of the College for qualifications was enacted for the second time.[1]

Dr. W. P. Herringham was elected a representative of the College in the Court of Governors of the University of Sheffield. The thanks of the College were accorded to Dr. F. T. Roberts, the retiring representative.

The quarterly report, dated April 23rd, of the College Finance Committee was received and adopted.

A report from the committee of management dated March 22nd was received and adopted. The report dealt with the following subjects: 1. A revised syllabus of the subjects for both parts of the examination in public health was adopted. The syllabus will come into force at Jan. 1st next. 2. The report of Dr. Norman Moore, the visitor to the examinations of the Egyptian Medical School for the year 1908, was considered satisfactory in every respect. The thanks of the College were accorded to Dr. Moore for his services. 3. (*a*) The committee recommended that the Grammar School, Cheltenham, which has been visited by a member of the committee and reported as fulfilling the requirements of the Board, be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry and physics. (*b*) The committee recommended that the Merchant Taylors' School, which is already recognised for instruction in chemistry and physics, be also recognised for instruction in biology.

The quarterly report of the examiners for the Licence on the results of the January examinations was received and adopted.

Books and other publications presented to the library during the past quarter were received and the thanks of the College were returned to the donors.

The PRESIDENT then dissolved the Comitia.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

WE have already in various annotations called attention to many of the arrangements for the approaching International Congress of Medicine at Budapest, and we print below a recapitulation of some of this matter with some added information which should prove useful to members of the profession who intend to be present.

The sittings of the Congress will be held from August 29th until Sept. 4th under the patronage of King and Kaiser Francis Joseph. His Majesty has named as his personal representative H.R.H. Prince Joseph. The national committees comprise the most notable scientists of signatory countries. Over a thousand communications have been sent in up to the present time from every part of the world. The Governments, magistrates, universities, and academies have already appointed their delegates. The business will be transacted in sectional and general sittings, and in the latter the representatives will hear addresses on topics of general interest tending towards the uniting of the nations in scientific work. The Hungarian Government, the legislature, the city of Budapest, and especially its scientific societies, are supporting the endeavours of the organising committee generously.

[1] THE LANCET, April 10th, 1909, p. 1069.

The Regulations of the Congress.

1. The day of opening is August 29th, and the day of closing is Sept. 4th.

2. The aim of the Congress is purely scientific.

3. Members of the Congress shall be all medical practitioners who have paid the membership fee, and who are accepted as members on the recommendation of their national committees or of the executive committee.

4. The membership fee is 25 crowns (about one guinea).

5. Wives and daughters of members pay half of this fee, which will entitle them to all the advantages offered to members by the railway companies. Such fees are to be sent to the treasurer, Dr. Elischer, Budapest VIII., Eszterházy Utcza 7, accompanied by a card and a note designating which section of the Congress the sender desires to join.

6. Members shall enjoy all the advantages of the Congress and shall receive the general volume of the proceedings of the Congress and also the special proceedings of his selected section.

7. The sectional classes of the Congress will be as follows: (1) Anatomy, Histology, and Embryology; (2) Physiology; (3) General and Experimental Pathology, Pathology (Physiological and Chemical); (4) Microbiology (Bacteriology) and Pathological Anatomy; (5) Therapeutics (Pharmacology, Physical Methods, and Balneology); (6) Internal Medicine; (7) Surgery; (8) Obstetrics and Gynæcology; (9) Ophthalmology; (10) Pediatrics; (11) Neurology; (12) Psychology; (13) Dermatology and Venereal Diseases; (14) Urology; (15) Laryngology, Disease of the Nose; (16) Otology (this section forming also the Eighth International Otological Congress); (17) Stomatology, Dentistry; (18) Hygienics and the Study of Immunity; (19) Forensic Medicine; (20) Military and Naval Sanitation; and (21) Tropical Medicine and Shipping Surgery.

8. The arrangements of the Congress are in the hands of an organising committee and of an executive committee.

9. The Congress will hold two formal sittings, which will form the opening and the closing ceremonies, at which only those appointed by the organising committee and nominated by the State representatives will speak. At the opening ceremony the organising committee will, after the usual addresses, proclaim the list of the honorary presidents of the Congress, and at the closing ceremony it will announce the place of the next Congress, which will be decided by a special committee sitting on the third day of the Congress. This committee will consist of the presidents and secretaries of the national committees and the president and chief secretary of the Sixteenth International Congress. The honorary presidents of the single sections will be elected at the opening sitting.

10. The last day for the notification of papers will be May 15th. Communications notified after this date will be put upon the programme only if time will allow.

11. Members have the right of attending other sections besides those to which they belong.

12. The speeches and addresses delivered at the opening and closing ceremonies will be printed at full length in the proceedings.

13. The time spent in delivering a communication shall not exceed 20 minutes, no speaker shall spend more than 10 minutes in a contribution to the discussion, and the reply of the opener shall not exceed 10 minutes.

14. At all the sittings the English, French, German, and Italian languages may be used by speakers.

The Central Committee of the Congress.

The names of the foreign honorary presidents will be proclaimed at the opening festivity. The following officials have been already appointed:—Honorary President of the Congress: Baron Frederik Korányi; President: Koloman Müller; Chief Secretary: Emil Grosz; and Treasurer: Julius Elischer.

Ladies Committee:—President: Mme. Professor Arpád

Bokay; Vice-Presidents: Mme. Professor Emanuel Herczel and Baroness Alexander Korányi. The members of the ladies committee number about 100. The Executive Committee consists of about 50 members. The National (Hungarian) Committee consists of about 300 members. The Reception Committee consists of 25 members. The Financial Committee consists of 15 members.

The Foreign Committees of the Congress.

The following are the officials of the various National Committees:—

England.—President: Dr. F. W. Pavy, London; Secretaries: Dr. Clive Riviere and Mr. D'Arcy Power, London.

Germany.—President: Geh. Med. Rat. Professor W. Waldeyer, Berlin.

United States of America.—President: Dr. John H. Musser, Philadelphia.

Austria.—President: Hofrat Professor A. von Eiselsberg, Vienna.

France.—President: M. le Professor Landouzy, Doyen de la Faculté de Médecine, Paris.

Spain.—President: M. le Professor Tullian Calleja y Sánchez, Madrid.

Egypt.—President: M. Armand Ruffer, President of the Egyptian Sanitary Quarantine Council, Alexandria.

Canada.—President: Professor Alexander MacPhedran, Toronto.

Italy.—President: M. le Professor Guido Baccelli, Rome.

Japan.—President: Professor S. Kitasato, Director of the Institute for the Research of Infectious Diseases, Tokio.

The Plenary Sittings of the Congress.

There will be six plenary sittings dealing with the following subjects. Dr. G. Baccelli (Rome): On Heroic Medicine. Dr. E. F. Bashford (London): On Cancer. Dr. M. Gruber (Munich): Vererbung, Auslese und Hygiene (Inheritance, Selection, and Hygiene). Dr. R. Kuttner (Berlin): Über das ärztliche Fortbildungswesen (On the Post-graduate Instruction of Medical Men); this address will be held under the auspices of the central committee of Prussian Post-graduate Instruction. Dr. A. Laveran (Paris): La Pathologie Exotique (Tropical Medicine). Dr. T. Loeb (Berkeley): Artificial Parthogenesis and its Bearing upon the Physiology and the Pathology of the Cell. The place and date of these sittings will be published in the journal of the Congress. At these sittings ladies will be admitted to the general meetings of the Congress.

General Arrangements.

For the benefit of the Congress the organising committee has made arrangements with the General Post Office of Budapest to send the letters of foreign members to the office of the Congress if no other address is registered. The telegraphic address will be "Congressus, Budapest." In our last two issues we have published full particulars of the arrangements made for lodgings and excursions for members of the Congress.[1]

MEDICINE AND THE LAW.

Action Against a Dairy Company for Selling Milk Containing Boric Acid in Breach of a Warranty.

AT the Croydon county court judgment was given recently by his honour Judge Harington in an action heard by him in February, in which the plaintiffs, Mr. Harold Bentley and his infant daughter, suing by him as her next friend, claimed against the defendants, Messrs. Wraight, Dumbrill, and Co., in respect of milk supplied to Mr. Bentley for the use of his child. Mr. Bentley entered into a verbal contract with the defendants in June, 1908, through their agent at Mitcham, a man named Hughes, for the supply of nursery milk free from any preservative or adulteration for the consumption of his child born in December, 1907. He had already ceased to deal with another dairy owing to the presence of boric acid in the milk supplied, and his express stipulation and the dairyman Hughes's promise that there should be none were not disputed. While the child was being fed with the defendants' milk she suffered severely from diarrhœa, loss of appetite, and loss of weight, and her father eventually consulted Dr. David Forsyth, who recommended him to have the milk analysed. It then appeared that the milk contained boric acid in the proportion of five grains to the pint, and when this was discontinued the child improved in health, after which the action was brought. Medical evidence was given on behalf of the plaintiffs by Mr. Bentley himself, Dr. Forsyth, Mr. E. Hinks, analyst to the Surrey county council, and others. On behalf of the defendants Mr. Felix C. Kempster gave medical evidence, and Mr. Hughes and other witnesses connected with the dairy denied absolutely the use of boric acid in the business or in connexion with the milk complained of. In giving judgment his honour stated that there were two questions for his decision: 1. Did the defendants or their agents adulterate with boric acid the milk supplied to Mr. Bentley? 2. If so, was the child's illness due to such adulteration? Dealing with the second question first, and saying that the answer must depend entirely on the conclusion to be drawn from the medical evidence, having regard to the history of the illness, he found that there was boric acid in the milk during the period following June 6th and that the child's illness was due to it. After reviewing the evidence as to the other question, he came to the conclusion that the preservative found its way into the defendants' milk before it left their premises and that they were responsible under their warranty. He assessed the damages at £11 1*s.* 6*d.*, representing the actual cost to the father, with £5 5*s.* for the child in respect of suffering undergone, and gave judgment for that amount with costs on Scale B. Mr. Bentley is to be congratulated on the result of his action and upon having discovered in time the cause of his child's illness. The case shows the danger arising from the use of boric acid, and the value of analysis as a safeguard even when assurance of the purity of the milk has been given.

[1] THE LANCET, April 24th, p. 1192, and May 1st, p. 1264.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 7th, 1831.

POISONOUS TABLE SALT.

The Council of Health of Nantz have found, after a most rigorous and extensive examination, that the table-salt of that city was free from the admixture of arsenic and the combinations of iodine which MM. Latour de Trie and Chevallier have detected in Paris. The Academie de Medecine have recommended the Government to order similar inquiries to be prosecuted in every department of France.

COMPOSITION OF OXALIC ACID.

M. Gay Lussac has succeeded in decomposing this acid by a moderate temperature, and he states it to be composed of six parts of carbonic acid, five of carbonic oxide, and one of the formic acid.—*Lancette Franç.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8423 births and 4569 deaths were registered during the week ending May 1st. The annual rate of mortality in these towns, which had been 17·1 and 15·8 per 1000 in the two preceding weeks, further declined to 14·5 in the week under notice. During the first four weeks of the current quarter the death-rate averaged 16·1 per 1000, while in London during the same period the mean rate was 15·6. The lowest recorded annual death-rates in these towns last week were 7·6 in Leyton and in Walthamstow, 7·7 in Burton-on-Trent, 7·8 in York, and 8·2 in Hornsey and in Handsworth (Staffs); the rates in the other towns ranged upwards to 20·2 in Preston, 20·6 in Sunderland, 22·3 in Middlesbrough, and 24·0 in Bootle. The 4569 deaths from all causes in the 76 towns last week showed a decrease of 414 from the number in the previous week, and included 462 which were referred to the principal epidemic diseases, against 593, 584, and 518 in the three preceding weeks; of these 462 deaths,

225 resulted from measles, 113 from whooping-cough, 39 from diarrhœa, 37 from diphtheria, 34 from scarlet fever, 13 from "fever" (principally enteric), and one from small-pox. The 462 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·5 per 1000, the corresponding rates for the two preceding weeks being 1·9 and 1·6 per 1000. No death from any of these epidemic diseases was registered last week in Brighton, Tottenham, Norwich, Northampton, Huddersfield, or in 12 other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·7 in Wallasey, 3·8 in Bootle, 4·0 in Wigan, and 4·4 in Preston. The deaths from measles, which had declined from 438 to 265 in the six preceding weeks, further fell last week to 225, but caused death-rates ranging upwards to 1·7 in Salford, 1·9 in Tynemouth, 2·3 in Bootle, 2·9 in Wigan, and 3·3 in West Hartlepool. The fatal cases of whooping-cough, which had been 130 and 131 in the two preceding weeks, declined to 113 in the week under notice, the highest death-rates from this disease being 1·4 in East Ham, 1·5 in Smethwick, 2·0 in Stockport, and 3·5 in Preston. The 39 deaths from diarrhœa slightly exceeded the number in the previous week. The fatal cases of diphtheria, which had been 53, 47, and 48 in the three preceding weeks, declined to 37 last week, and included nine in London and its suburban districts, three in Portsmouth, three in Burnley, and two each in Manchester, Halifax, and Wallasey. The deaths from scarlet fever, which had been 47, 31, and 28 in the three preceding weeks, rose again to 34, and included 12 in London and its suburban districts, and six in Liverpool. The 13 deaths referred to "fever" corresponded with the number in the preceding week, the highest death-rate being 1·5 in Wallasey. One fatal case of small-pox was registered in Cardiff, but none in any other of the 76 towns. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had decreased from 2873 to 2219 at the end of the eight preceding weeks, had further declined to 2181 on Saturday, May 1st; 305 new cases were admitted during the week, against 256, 244, and 265 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 341 and 294 in the two preceding weeks, further declined to 232 in the week under notice, and were 73 fewer than the corrected average number in the corresponding week of the five years 1904–08. The deaths in London directly attributed to influenza numbered 32 last week, and were nine in excess of the corrected average number. The causes of 38, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, and in 47 other smaller towns; the 38 uncertified deaths included six in Birmingham, six in Liverpool, and three in Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·4 and 17·4 per 1000 in the two preceding weeks, further declined to 16·9 during the week ending May 1st. During the first four weeks of the current quarter the annual death-rate in these towns averaged 17·6 per 1000, and exceeded by 1·5 per 1000 the rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates in the week under notice ranged from 13·0 in Greenock and 14·8 in Dundee and in Paisley to 17·2 in Edinburgh and 18·1 in Glasgow. The 605 deaths from all causes registered in the eight towns last week showed a decline of 15 from the number in the preceding week, and included 93 which were referred to the principal epidemic diseases, against 98 and 86 in the two preceding weeks; of these 93 deaths, 55 resulted from whooping-cough, 21 from diarrhœa, five from scarlet fever, five from diphtheria, five from "fever," and two from measles, but not any from small-pox. The annual death-rate from these diseases was equal to 2·6 per 1000 last week, or 1·1 per 1000 more than the death-rate during the same period from the principal epidemic diseases in the 76 English towns. The fatal cases of whooping-cough, which had been 58 and 46 in the two preceding weeks, rose again to 55 in the week under notice and included 34 in Glasgow, 11 in Edinburgh, and three each in Dundee, in Aberdeen, and in Paisley. The deaths from diarrhœa, which had been 18 in each of the two preceding weeks, rose last week to 24, of which eight occurred in Glasgow, five in Edinburgh, three in Aberdeen, two in Dundee, and two in Leith. The five deaths referred to "fever" included three from enteric fever and two from cerebro-spinal meningitis; all these deaths were registered in Glasgow, where three of the five fatal cases of scarlet fever and four of the five deaths from diphtheria also occurred. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 135 and 118 in the two preceding weeks, further declined to 99 in the week under notice, and were eight fewer than the number in the corresponding week of last year. The causes of 23, or 3·8 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified deaths during the same week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 27·7 and 24·5 per 1000 in the two preceding weeks, further declined to 22·0 in the week ending May 1st. During the first four weeks of the current quarter the death-rate has averaged 24·9 per 1000, whereas the mean rate during the same period did not exceed 15·6 in London and 17·6 in Edinburgh. The 168 deaths of Dublin residents from all causes during the week under notice were 19 fewer than the number in the previous week, and included 16 which were referred to the principal epidemic diseases, against 21 and 12 in the two preceding weeks. These 16 deaths were equal to an annual rate of 2·1 per 1000, the rate from the epidemic diseases during the same week being 1·7 in London and 2·6 in Edinburgh. Of the 16 deaths from these epidemic diseases in Dublin last week, 13 resulted from whooping-cough, two from measles, and one from scarlet fever, but not any from small-pox, diphtheria, "fever," or diarrhœa. The fatal cases of whooping-cough, which had been seven, 11, and six in the three preceding weeks, rose again last week to 13, and exceeded the number in any previous week of the year. The 168 deaths registered during the week under notice included 31 of infants under one year of age and 53 of persons aged upwards of 60 years, the corresponding numbers in the preceding week being 28 and 59 respectively. Eight inquest cases and four deaths from violence were registered, and 61, or 36·3 per cent., of the deaths occurred in public institutions. The causes of four, or 2·4 per cent., of the deaths in Dublin last week were not certified; in London all the 1300 deaths were duly certified, while in Edinburgh the proportion of uncertified deaths was 3·4 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Staff-Surgeon Norman Ireland-Smith has been placed on the retired list (dated March 23rd, 1909).

The following appointments are notified:—Fleet-Surgeon: W. E. Marshall to the *Achilles*, on recommissioning. Staff-Surgeon: J. D. S. Milln to the *Vindictive*, on recommissioning. Surgeon: W. G. M. Anderson to the *Scylla*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Captain J. M. M. Crawford has been transferred to the Eastern Command from Lahore.

SPECIAL RESERVE

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in that rank:—James N. McLaughlin, Robert T. C. Robertson, and Joseph G. McCutcheon.

TERRITORIAL FORCE.

Royal Field Artillery.

3rd West Riding Brigade: Surgeon-Captain Archibald

William Cuff, from the 4th West Riding of Yorkshire Royal Garrison Artillery (Volunteers), to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Royal Army Medical Corps.

1st London (City of London) Field Ambulance: Lieutenant Robert Ollerenshaw resigns his commission (dated March 4th, 1909).

6th London Field Ambulance; Walter Brock Parsons to be Lieutenant (dated March 16th, 1909).

3rd Northumbrian Field Ambulance: Abram Cockcroft Barker to be Lieutenant (dated March 17th, 1909). Mervyn Alexander Archdale to be Lieutenant (dated March 24th, 1909).

3rd West Riding Field Ambulance: Lieutenant Herbert G. M. Henry resigns his commission (dated March 31st, 1909).

2nd Wessex Field Ambulance: Lieutenant Fielding C. Whitmore to be Captain (dated March 3rd, 1909).

2nd London (City of London) General Hospital: Captain (Honorary Captain in the Army) Ernest J. G. Berkley to be Major (dated April 5th, 1909).

North Midland Mounted Brigade Field Ambulance: Arthur Charles Goodwin to be Lieutenant (dated Feb. 22nd, 1909).

3rd Northern General Hospital: Surgeon-Captain Arthur Mayers Connell, from the 4th West Riding of Yorkshire Royal Garrison Artillery (Volunteers), to be Major (dated April 1st, 1908). John Sinclair White to be Lieutenant-Colonel (dated March 5th, 1909).

For attachment to Units other than Medical Units.—Surgeon-Major Charles Lachlan Fraser, from the Unattached List, to be Major (dated Feb. 21st, 1909). Clarence Isidore Ellis to be Lieutenant (dated March 30th, 1909). Gerald Stephen Hughes to be Lieutenant (dated Dec. 2nd, 1908). Francis Ley Augustus Greaves to be Lieutenant (dated Feb. 17th, 1909).

DEATHS IN THE SERVICES.

Colonel Herbert Murray Ramsay, R.A.M.C. (T.F.) (late Surgeon-Captain, Scots Guards), on April 29th at Cotswold Sanatorium, aged 45 years. He took an active interest in the Territorial Force and was recently appointed to the command of the 1st London General Territorial Hospital.

CITY OF LONDON NURSING SERVICE.

At a meeting of the executive committee of the Territorial Nursing Service of the City and County of London, held at the Mansion House on April 30th, Colonel Clement Godson, Colonel Adams, and Colonel Thorne were added to the executive committee.

LECTURES ON ARMY SANITATION.

The following course of lectures on army sanitation have been arranged and will be delivered at the Royal Institute of Public Health, 37, Russell-square, London, W.C., as follows: May 12th, The Officer and his Duties towards the Well-being of the Soldier under his Command, by Surgeon-General G. J. H. Evatt, C.B., Honorary Colonel, Home Counties Division, Field Ambulances, Territorial Force; May 19th, Practical Sanitation of Camps, by Lieutenant-Colonel R. H. Firth, R.A.M.C., instructor, School of Army Sanitation, Aldershot; May 26th, The Essential Principles of Sanitation in the Field, by Lieutenant-Colonel C. H. Melville, R.A.M.C., professor of hygiene, Royal Army Medical College; June 2nd, Hospital Work in War, by Lieutenant-Colonel R. J. S. Simpson, R.A.M.C., C.M.G., professor of tropical medicine, Royal Army Medical College; June 9th, The Bacteriology of Diseases Common to Armies in the Field, by Dr. R. Tanner Hewlett, professor of general pathology and bacteriology in King's College, London; June 16th, Inoculation Methods for the Prevention of the Diseases to which the Soldier is Liable, by Lieutenant-Colonel S. Monckton Copeman, divisional sanitary officer, 1st London Division, Territorial Force. The lecture hour will be 6 P.M.

MIDDLESEX HOSPITAL.—The annual Middlesex Hospital Founders' Day Commemoration Service will be held in the Hospital Chapel on Wednesday, May 19th, at 3.30 P.M., when a sermon will be preached by the Rev. Herbert E. Gunson, M.A., the chaplain. After the service visitors will have the opportunity of inspecting the wards of the hospital and will be entertained at tea by the invitation of Lord Cheylesmore and members of the weekly board of governors, in whose name the cards of invitation are issued.

Correspondence.

"Audi alteram partem."

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN: THE LONDON COUNTY COUNCIL AND THE CLAIMS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—The action of the London County Council demands instant attention and decisive action, if the profession in London is not to be exploited still more, and in a way peculiarly detrimental to its general interests. The Council at its last meeting passed an amendment moved by Mr. Hayes Fisher,[1] referring back a report on the treatment of school children, with instructions to prepare an estimate of the cost of treating each of several diseases. The matter is thus left as follows: The Council has decided to treat the children by utilising existing institutions, and by making grants in return from the public funds. The latter, by the way, is in direct opposition to the almost unanimous opinion of the British Medical Association. Following on the passage of this amendment, the authorities, permanent and other of the Education Committee, have approached the chairmen and secretaries of the London hospitals with proposals; and an informal meeting has been held at which a definite proposition was made offering the hospitals 4*s.* 6*d.* per head for treatment. The response to this offer has, I understand, been of a varied nature, some agreeing to a definite remuneration per head, and others saying that if the Council subscribes special facilities shall be given.

In no case does it appear that anything has been said to the staff or that they have been considered in the slightest degree. As far as I can ascertain, they are in more or less complete ignorance of the matter. It seems to be taken for granted that the medical staffs will carry out any scheme that may be proposed by the committees and adopted by the boards of management. In fact, it was bluntly stated the other day, "the staffs are the servants of the boards of management, and if the boards say they must treat the children they must do so." Personally, I think it unlikely that the staffs will submit so easily. In other words, many thousands, probably hundreds of thousands, of children are to be treated as far as the medical profession is concerned for nothing.

There is no doubt that these children need treatment, but if they cannot afford to pay their own private practitioners they should either be treated by the Poor-law or by means of special clinics officered by the medical staff of the Education Committee, who, no doubt, are able and willing to carry out the work in return for adequate remuneration. Can there be a more flagrant example of exploitation than this proposal to utilise the services of the profession without payment to keep down the rates?

I am, Sir, yours faithfully,

London, W., May 1st, 1909. H. BECKETT-OVERY.

*** In another column we discuss the situation in the light of a statement circulated among members of the London County Council.—ED. L.

THE PROXIMATE FACTOR OF DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—Referring to Mr. F. S. D. Hogg's letter under this head in THE LANCET of May 1st, p. 1276, I submit that the figures which he extracts from the case-books of Dalrymple Home Retreat are not comparable with those published in the report of the Norwood Sanatorium. Mr. Hogg's figures refer to delirium tremens occurring in the previous life histories of patients, mine to delirium tremens occurring only on or after admission. Moreover, Mr. Hogg's argument assumes that the type of inebriety—whether continuous or intermittent—remains constant through life. If this is the rule there are numerous

[1] THE LANCET, April 10th, 1909, p. 1069.

exceptions. Nothing is commoner than for a continuous drinker to become in the course of time more or less periodic; and conversely. Many of the Norwood Sanatorium patients, periodic drinkers on admission, had suffered from delirium tremens in the past. At the time, however, they had all without exception been continuous drinkers. I have yet to find one instance in which a single short outburst of drunkenness following on a period of total abstinence resulted in delirium tremens.

Both Mr. Hogg and myself now admit that delirium tremens may result from sudden withdrawal of alcohol. But Mr. Hogg finds—contrary to my experience—that the onset of the complication can be prevented by the substitution of other narcotics. In these circumstances exact details of the nature, dosage, and times of administration of the substitutive narcotics would be of great interest and utility.

I am, Sir, yours faithfully,

May 2nd, 1909. FRANCIS HARE.

THE DEATHS REGISTRATION AND BURIALS BILL, 1909.

To the Editor of THE LANCET.

SIR,—It is earnestly to be hoped that this long required measure will be allowed to pass the present session of Parliament and that the medical profession will do all it can to secure that end. I have carefully perused the Bill, which I think is excellent, although there are two or three points on which it appears to me to be hardly complete or definite enough, viz.:—

1. In Section 3, in return for the fee to be paid to the medical practitioner, which I heartily approve, he should be required to give a complete and accurate certification of the cause of death, whether that cause be acute or chronic alcoholism, venereal disease, or whatever it may be. At present the certification and statistics of such causes of death as the last mentioned are most incomplete, because medical practitioners do not like to divulge such confidential secrets to the relatives of the deceased; hence the great desirability also of another amendment, viz.:—

2. In Section 11 it should be compulsory that the medical practitioner's certificate of the cause of death should be sent under sealed cover direct to the sub-registrar. There should also be one compulsory form of medical certificate for the purposes of registration, and one only.

3. Burials should take place only in public cemeteries or churchyards; otherwise there is nothing to prevent still-births being secretly buried in private gardens.

I am, Sir, yours faithfully,

EDMUND M. SMITH, M.D. Edin., D.P.H.,
Guildhall, York, May 4th, 1909. Medical Officer of Health.

PERFORATIVE APPENDICITIS IN AN INFANT.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 17th, p. 1110, Dr. T. Wilson Parry recorded an interesting case of perforative appendicitis in an infant, aged 16 months. As the condition seems to be extremely rare in infants I think it may be worth mentioning that during the last month Mr. Joseph Cunning operated with complete success on a child just 11 months of age who was admitted to this hospital suffering from a similar condition.

I am, Sir, yours faithfully,

A. C. D. FIRTH,
Resident Medical Officer, Victoria Hospital for Children.
May 3rd, 1909.

THE COST OF A MOTOR-CAR.

To the Editor of THE LANCET.

SIR,—The following particulars of the cost of running a motor-car may be of use to many readers who are interested in the subject either as owners or prospective purchasers of cars.

My car, which I drive myself, is a 12-h.p. "Star," late 1907 pattern, with dual ignition, each totally independent of the other, four speeds forward, with direct drive on the third, and White and Poppe carburettor. I can endorse all the remarks made by your contributor, Mr. Hirsch, about the "Star" cars in "Motoring Notes" in your issue of Feb. 20th last. I have had absolutely no trouble with the car and have run 6800 miles during the last 15 months. The first year's cost of upkeep has been as follows:—

	£	s.	d.
Petrol	18	19	8
Tyres	9	17	1
Minor repairs	3	3	3
Oil, grease, and sundries (including spare plugs, &c.)	2	12	7
Insurance and licence	14	5	0
	£48	17	7

The mileage for the 12 months was 6045 miles.

The above speaks for itself and is very satisfactory in every way.

I am, Sir, yours faithfully,

Liverpool, April 27th, 1909. J. SAFFLEY, M.B. Edin.

MEDICAL PRACTICE IN PERU.

To the Editor of THE LANCET.

SIR,—In an editorial article in THE LANCET of Jan. 23rd you say, "In Peru also unqualified practice does not appear to be penalised." Quite correct in one way, but it is strictly prohibited, the delegates of the Medical Faculty having power to call in the action of the civil powers to exact fines, and even, I believe, to put in prison in case of contumely.

During about 50 years I have never seen the law really put in practice in a serious manner, consequently unqualified practice and mendacious "medical" advertisements abound.

I am, Sir, yours faithfully,

J. DICKSON HUNTER, M.D. Edin., &c.
Arequipa, Peru, April 2nd, 1909.

FAVUS AND RINGWORM AMONG SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—In the report on the medical treatment of school children presented at the last meeting of the London County Council the Council's Education Committee recommend the x ray treatment for ringworm, and further that the "present special treatment" of cases of favus should be continued. It is stated that the loss in grants through ringworm amounts to over £5000 per annum, in view of which fact it is obvious that special steps are necessary with a view to the reduction of the excessive prevalence of the disease. At the same time it is pointed out that the x ray treatment costs from 5*s.* to 7*s.* per head, and each installation of the apparatus about £100. The treatment given in the favus school is regarded as satisfactory, and this being so it would be interesting to know why that or some similar treatment cannot be given in cases of ringworm.

Perhaps one of your readers could enlighten me through the medium of your columns as to the nature of the treatment at the favus school, and how it compares as regards cost with the proposed x ray treatment.

I am, Sir, yours faithfully,

May 6th, 1909. M.D.

THE IRISH UNIVERSITIES COMMISSIONS.

To the Editor of THE LANCET.

SIR,—In your issue of April 24th, 1909, on p. 1214, under the above heading, it is stated: "The two commissions ..... are working hard, so that if possible both new universities may be able to begin work next October, when, if they are both ready, the Royal University will be dissolved." As a graduate in medicine of the late Queen's and now Royal University I am anxious to emerge from the state of Egyptian darkness in which I am at present as to the effect of the dissolution of the Royal University on the graduates of that body; in what form will they survive this second death? and where may they expect to find authentic (official) information on the subject?

I am, Sir, yours faithfully,

May 1st, 1909. MORIBUND.

*** We have the fullest sympathy with our correspondent. We believe when the Royal University is dissolved he may enrol himself either as a graduate of the National University of Dublin or of the Queen's University of Belfast, or he may

decide to take neither course, but to describe himself officially as M.D. (late R.U.I.). He can obtain official information on the matter by communicating with the Right Hon. Lord Chief Baron Palles, chairman of the National University Commission, Mount Anville House, Dundrum, county Dublin, or with His Honour Judge Shaw, K.C., chairman of the Belfast University Commission, 69, Pembroke-road, Dublin. Each of these gentlemen, with a few others from both commissions, will sit together in Dublin on May 14th to decide questions that affect the two universities, of which the subject raised in the above letter is, we should presume, likely to be one.—ED. L.

THE GERMAN SURGICAL CONGRESS.[1]

(FROM OUR BERLIN CORRESPONDENT.)

THE Congress of the German Surgical Association was held at Berlin from April 14th to 19th, Professor KÜMMELL of Hamburg being in the chair.

Anæsthetics.

Professor NEUBER of Kiel made a report on a collective investigation concerning Anæsthesia during 1908. In all 71,052 cases were registered, in 24 of which, or about 1 in 3000, death occurred. The mortality in anæsthesia by chloroform exceeded that caused by ether; the latter, however, more frequently produced post-operative pneumonia. Chloroform, which in Germany was formerly used in 75 per cent. of the cases, was now used only in 25 per cent. The combination of oxygen with chloroform, administered by the Roth-Draeger apparatus, had not been so successful as, it appeared, the author had hoped. The least harmful method was the combination of scopolamin and morphine combined with the ether drop method. Anæsthesia should be produced rather slowly and should not be so intense as to cause total disappearance of the reflexes, but only be so deep that no pain is felt and that no movements are made. Irritation is thus avoided before and during the operation; moreover, the danger of pneumonia is considerably decreased.

Professor BIER of Berlin read a paper on the Actual State of Local and Spinal Analgesia. He said that for local analgesia the injection of cocaine in small doses as devised by Professor Schleich was the surest method. Also a combination of novocaine with adrenalin gave good results, and enough could be given to produce sufficient anæsthesia for the removal of even the thyroid gland or the larynx. He then described his method of intravenous injections in the limbs which was lately reported in these columns. Concerning spinal analgesia by injection into the spinal canal, he said that failures were rather rare with a careful technique, but that undesirable sequels might occur. After the injection of tropacocaine and adrenalin headache occurred in 6 per cent. of the cases and vomiting in 5 per cent. The method was indicated in operations on the pelvis and the lower extremity. The simultaneous administration of scopolamin with morphine was very useful; it was contra-indicated in cases where local anæsthesia was possible and in patients suffering from cerebral and nervous diseases. It must, however, be considered that the method was still in the stage of an experiment.

Professor REHN of Frankfort had made experiments in animals concerning the influence of lumbar injection on the spine and the brain. To study the physiological current of the arachnoidal fluid 2 cubic centimetres of a sugar solution with methylene blue were injected into the lumbar part of the arachnoid cavity of a horse, the result being that the methylene blue was present after from 10 to 25 minutes within the ventricles of the brain. It was therefore obvious that fluids of high specific gravity were carried by the physiological stream upwards to the brain. Tropacocaine, novocaine, and stovaine solutions were still present after three hours within the arachnoidal cavity. In the urine the above compounds appeared after 10, 20, and 26 hours respectively, so that stovaine was the latest to be discharged. In the cells of the motor ganglia of the brain chromolytic alterations and degeneration were found 72 hours after the injection. After ten days a degeneration of the cord, especially of the posterior column, was found. The direct injection of the compound into the spinal marrow produced at once a total destruction, whilst injection of a saline solution was harmless.

Professor KADER of Cracow reported 1907 cases of spinal analgesia, of which 1853 referred to tropacocaine. The method was used in operations from the neck down in every region of the body. He used a 2 per cent. solution which must be freshly prepared for every injection. The quantity of cerebro-spinal fluid allowed to escape must be twice that of the solution injected. He injected whilst the patient was in a stooping position, but he was placed in Trendelenburg's position immediately after the injection; the quantity injected was 0·07 gramme of tropacocaine in operations on the pelvis and the lower extremities, 0·12 gramme in operations above that region, and 0·14 to 0·16 gramme in operations on the neck. As a rule the patients showed no undesirable symptoms, but in four cases death occurred on the operating table. The operations sometimes lasted for hours. In elderly people greater doses must be avoided. In 81 cases general narcosis became necessary. Twice syncope was observed, in five cases severe headache occurred, and in three cases paresis of the ocular muscles followed, which, however, disappeared later.

Dr. ERHARDT of Königsberg stated that the arabates of the anæsthetic alkaloids travelled higher up the spinal canal, and that more quickly than the hydrochlorates; in animals a total analgesia of the body, including the cornea, was obtained without paralysis of the respiration.

Dr. HOREMANN of Rostock spoke on the treatment of the after-effects of spinal analgesia. The most frequent complication was severe headache, which sometimes was present for many weeks and seemed to defy therapeutic treatment. He made exact estimate of the pressure of the cerebro-spinal fluid in the horizontal position after the method devised by Professor Quincke. When the pressure was too high a certain quantity of the fluid was drawn off; when it was too low a certain quantity of a saline solution was injected, the results being very good.

Staff-Surgeon Dr. KÖHLER of Berlin discussed the possibility of local analgesia in a war. He said that, owing to the uncertain effect of the method and the difficulty of securing asepsis in war, general anæsthesia by inhalation was preferable for operation on the battlefield and in the field hospitals.

Operations on the Ureter.

Professor GARRÉ of Bonn said that the most frequent reason for operation on the ureter was incarcerated calculus which was generally situated either at the upper end of the ureter or near its entrance to the bladder. When the ureter was totally blocked no time should be lost but an operation should be at once performed. An incision was made from the twelfth intercostal space to the anterior superior spine. Through this incision the surgeon must get at the calculus by the retroperitoneal way. The calculus might be felt when the ureter was reached. An incision was then made in the ureter and the calculus gently removed. By introducing a probe it could be ascertained whether other calculi or strictures were present. The incision was then closed by suture. It was unadvisable to insert the ureter in the surrounding tissue because kinks and strictures were liable to occur. Drainage of the ureter was contra-indicated. In cases of incarceration of calculi near the entrance of the ureter into the bladder the "sectio altâ" should be made. The diagnosis of calculi might be made by radiography or by cystoscopy. A second indication for operation on the ureter was the presence of injuries, especially in gynæcological operations; the diagnosis was as a rule uncertain, but when an injury was certain an immediate operation was advisable. The ureter was made accessible in the retroperitoneal way and the wound was closed by fine silk sutures. When the ureter was completely divided an oblique union of the ends was preferable to a circular suture. A lateral anastomosis might hinder the urine from passing freely and it was thus preferable to make an invagination of the renal into the vesical end. The suture of the ureter was impossible within the true pelvis, implantation being the standard method in such cases. Implantation is further indicated in prolapse, in growths of the bladder,

[1] Our correspondent received valuable assistance in the preparation of this report from the editor of the *Deutsche Medicinische Wochenschrift*, whose courtesy we wish to acknowledge.

and in ectopia. When an implantation could not be done the following procedures might be considered: (1) removal of the kidney; (2) anastomosis of both ureters; (3) nephrostomy; (4) implantation into the sigmoid; and (5) implantation of an organic tube instead of the ureter. The third indication for operation on the ureter was stricture with consecutive hydronephrosis. In such cases either resection with oblique sutures or invagination must be performed.

Dr. VÖLKER of Heidelberg read a paper on the Diagnosis of Dilatation of the Renal Pelvis. He proposed to fill the pelvis with a solution of collargol through the ureter and to use radiography. The ureteral catheter must be impregnated with bismuth, so that it gave a shadow on the radiographic plate.

Peritonitis.

Dr. NOTZEL of Völklingen read a paper on Operations for Diffuse Peritonitis. He said that the prognosis did not depend on the species of bacteria present. As a rule the bacterium coli was found in peritonitis; streptococci if present did not mean a worse prognosis. It was important for a successful result to remember that the peritoneum, like all the large serous membranes, was able to destroy great masses of cocci. The object of the treatment was to remove the cause of the peritonitis, to get rid of the pus, and to provide for thorough drainage. Therefore every case of diffuse suppurative peritonitis was to be operated on, large incisions being necessary. For removal of the pus Dr. Notzel recommended irrigation, which, moreover, had a tonic action on the heart and the intestine. The Trendelenburg position must be avoided, the pelvis, on the contrary, being lowered. Drainage should be carried out by tubes and the wound closed by sutures to restore the abdominal pressure; the drainage tubes might be changed on the second day and replaced by smaller ones. In cases of paresis of the intestines enterostomy had not given good results; eventually puncture of the intestines by small trocars might be performed.

Dr. NORDMANN of Berlin said that the better results now obtained were partly due to the early date at which operations for appendicitis were undertaken. An exact diagnosis was rather difficult. Of 75 cases which occurred during the last year, six were not operated upon and died; of 69 cases operated upon, 23 died. Rigidity of the abdominal wall was not an absolutely sure symptom of peritonitis, for it was found also in enteric fever, meningitis, and Addison's disease. Fæcal fistulæ were less frequent since plugging had been abandoned. Dr. Nordmann argued against the use of sutures, because the fascia might become necrotic and suppuration of the abdominal wall might occur. Multiple incisions were no longer performed. The mortality in cases of paresis of the intestines was 75 per cent. Enterostomy and injection of physostigmine were useless.

Dr. SPRENGEL of Brunswick said that he avoided irrigation, the dry method giving better results. He also entered a protest against infusions of saline solution as useless; large doses, according to him, prejudiced the cardiac action. Enterostomy had been abandoned by him.

Dr. BORCHARD of Posen said that in cases of diffuse peritonitis after appendicitis he gave, after the removal of the appendix, injections of from 50 to 100 grammes of olive-oil. The results were good.

Dr. HEILE of Wiesbaden said that after the incision of the peritoneum he made a puncture of the intestine and injected about 50 or 100 grammes of castor oil to produce peristaltic movements. The small opening was then closed by a suture.

Dr. ROTTER of Berlin said that he preferred to close the abdominal wound by sutures in appendicitis with peritonitis. He had only twice observed an abscess in Douglas's pouch after this method. But in general diffuse peritonitis he warned his hearers against sutures.

Dr. KOTZENBERG of Hamburg recommended irrigation and injection of a vioform (iodochloroxy-quinoline) emulsion. To produce peristaltic movements he administered strychnine in large doses. He took the opsonic index, which, according to him, was valuable for the diagnosis, but without value in prognosis.

Cancer.

Professor VON CZERNY of Heidelberg said that an operation was still the best remedy for cancer, but that in inoperable cancer other methods must be tried; he hoped that eventually when the etiology of cancer was ascertained a serum would be found against the disease. Actually the method of Keating-Hart was one of the best proceedings for the treatment of cancer. Combined with excision and shelling-out it might not only relieve the patient but might eventually bring about a cure. After excision of the growth the wound was "fulgurated" and a scar was produced; and later granulation and epidermis often developed. He also recommended the administration of a radio-active salt obtained from the Kreuznach springs.

Dr. COHN of Berlin said that according to his experiences the Keating-Hart method did not destroy cancer but produced a very quick cicatrisation.

Wound of the Pulmonary Vein.

Professor VON EISELSBERG of Vienna reported the case of a Stab Wound of the Pulmonary Vein. The vein was made accessible by temporary resection of the third and fourth rib and the wound was closed by six sutures. The operation was completed within ten minutes. The patient, who was conveyed to the hospital in a moribund and pulseless state, recovered immediately; the pulse in the radial artery appeared as soon as the wound was closed and the hæmorrhage stopped. Unfortunately, the patient died after six weeks from empyema, which was probably metastatic, the primary cause being multiple abscesses in the skin due to injections of morphine.

(*To be continued.*)

THE DRAINAGE OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(*Concluded from p. 1279.*)

The Educational Influence of Good Sanitation.—The Complete Abolition of Cesspools.—A New System of Connecting and Disconnecting the House Drains with the Sewers.—The Mosque Latrines and the Public Latrines.—Religious Teaching and Cleanliness.

Cairo.

HAVING described the general scheme in regard to the public sewers, it is now necessary to consider its bearings upon the population, which amounted, according to the census taken in April, 1907, to 644,000 souls. For sanitary purposes this population has been divided into an upper and a lower class. The former consists of 50,000 Europeans and 50,000 Egyptians. Among the 544,000 belonging to the lower class—and I took care to make particular inquiries in this respect—there are a number of Europeans. It would be a great mistake to conclude that the sanitary difficulties are, and will be, created only by native Egyptians. The latter, for the most part, are taught by their religion to be clean, though they are quite ignorant of the principles of sanitary engineering. But the lower class European has neither religious nor any other education that would lead him to make proper and decent use of any sanitary accommodation afforded. Therefore there are many Europeans, notably Greeks, Italians, and Maltese, who, by reason of their dirty habits and tendency to overcrowd, cannot be qualified otherwise than as belonging to the lower class, judged from the sanitary point of view. The drainage scheme is based not merely on this dual classification, but on the calculation that in the course of the next 25 years the population will increase to 940,000, including an upper class of 160,000. Against this last estimate I would enter an energetic protest as being too pessimistic. Should it prove correct, then one of the best purposes of such a drainage scheme will have miscarried. It will be noticed that in these figures the proportion of the upper and the lower class in the enlarged population is maintained with something approaching to mathematical precision exactly as it now is. But one of the most fruitful effects of a general drainage scheme is its educational influence on the lower sections of the population. "Are your drains in order?" is the inevitable question which, all the world over, the sanitarian, the social reformer, and the Lady Bountiful have on their lips as they penetrate the slums, bringing enlightenment, help, and sympathy to the least fortunate sections of the community. Thus some even of the poorest classes are taught the importance of sanitation, and from the sanitary point of view are raised to a higher class by their knowledge. If to-day one out of every six inhabitants of Cairo may be ranked as belonging to a sanitary upper class, after 25 years of object-lessons given by

carrying out the drainage works, the proportion of those who understand to some extent the laws of health will be raised to two—let us hope to even three or four—out of every six inhabitants. Of course, as the knowledge of sanitation increases the amount of water employed will increase. Fortunately, the whole scheme of drainage is conceived on the basis that the maximum normal supply of sewage in dry weather will not do more than half fill the sewers. Therefore the sewers will be able to drain away double the amount of sewage likely to flow into them at present.

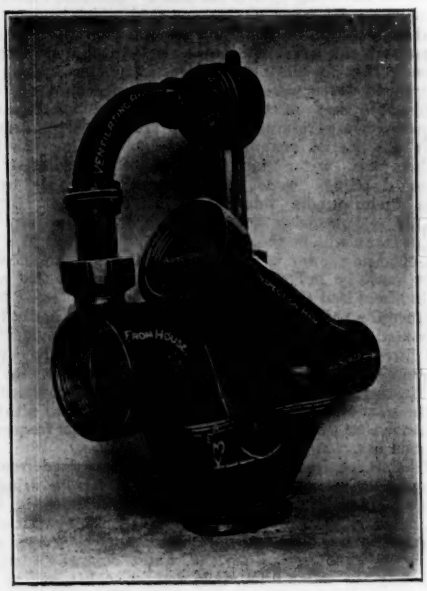
At the same time this question of the amount of water to be carried by the sewers has not been definitely decided, and the present estimate if maintained would constitute the weak side of the scheme. I understand that the Cairo Water Company has stated that 18,808,778 cubic metres of water were consumed in 1906; the maximum daily consumption was on June 13th and it amounted to 87,747 cubic metres. In winter only half as much water is used. These figures are, however, not of much use as they are based on the existing absence of water-closets in most of the houses and on the fact that the majority of the population buy the water they use for domestic purposes. Consequently with only the very small quantity of water they can afford to buy domestic cleanliness becomes impracticable. Surely the great object of a drainage scheme is, not to perpetuate, but to do away with this state of things. The first of all laws of health is to have an ample provision of light, air, and water. The poorer the house, the more densely crowded the district, the greater the need of an abundant provision of water so as to replace by constant scrubbing and washing what is wanting in open spaces, light, and air. In a word, it is the worst quarters, and not the best quarters, that need the greatest attention and improvement. This obvious fact needs to be emphasised in the plan of dealing with Cairo.

The dwellings are divided into three categories. There are the houses connected with the actual water distribution and then other good classes of houses that are not so connected. Thirdly, we have the houses made of sunburned bricks, forming the poorest and most miserable buildings. The first category of houses have water-closets which drain into different sorts of cesspools, *fosses*, septic tanks, soak-aways, and other more or less make-shift devices. All this will be abolished, the receptacles of filth will be carefully filled up, and the closets connected directly with the street sewer.

The success of these operations will depend on the severity of the supervision exercised. The existing cesspools will have to be filled up with clean earth. It is no use removing one sort of dirt to replace it with another sort of objectionable matter. As it is, everyone knows that the cesspools are a source of danger, and some persons endeavour to cope with this menace by employing septic tanks and other contrivances. But when the cesspools are filled up it will be thought that the danger is over, yet it may still be present. If the material put in is not suitable or is not itself clean the new state of affairs may be more perilous than the old because it will be unsuspected. Having thoroughly cleansed the inside of the houses and removed all trace of the old and barbaric cesspool system, the next thing will be to establish such connexions with the sewers as will permit the immediate evacuation of all soil and slop water from the houses without letting any air travel back from the sewer into the house. It seems a paradox, but the object is at once to connect and yet to disconnect the houses. For more than half a century the greatest ingenuity has been displayed to achieve this double and, as it were, contradictory purpose. The method to be employed at Cairo is one of the interesting novelties of the present drainage scheme. The Government will not trust this all-important matter to the individual householders, who for the most part know nothing whatsoever about the question. Instead of disconnecting chambers, inlet and outlet soil-pipe ventilators, a form of interceptor and ventilator, shown in Figs. 1 and 2, will be placed between the private house drains and the public sewers.

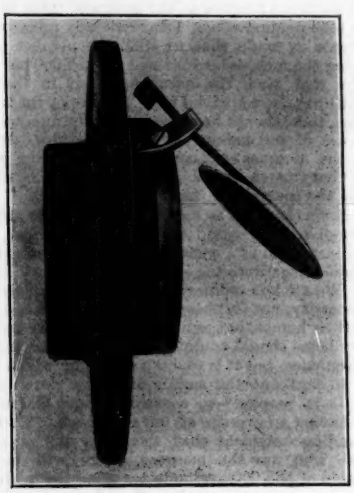
With the assistance of the accompanying illustrations it will be easy to realise the working of this ingenious contrivance. The first (see Fig. 1) shows the ordinary syphon trap providing a three-inch water seal. Above this ordinary syphon trap there is a ventilating arm leading to a small circular compartment which holds a carefully balanced valve. The valve opens from inside, that is, from the house outward, and is illustrated by Fig. 2. If the current of air is from the sewer to the house it closes the valve. On the other hand, even a very slight current of air coming from the dwelling, down its soil-pipe or its slop and waste-water pipes will suffice to raise this valve and thus allow the air to escape into the sewer. The current of air passing by the valve must always be from the house to the sewer, while there is the three-inch deep water seal as well as the swinging valve to prevent air ascending from the sewer into the house. It will be seen at once that the successful working of this apparatus depends on two indispensable conditions. First, the disconnecting trap must rest on a sure immoveable foundation.

FIG. 1.



The ventilating interceptor, to be placed by the authorities between the private house drains and the public sewers.

FIG. 2.



The valve within the ventilating interceptor which opens to let currents of air pass from the house drains to the sewer, but closes to prevent air from the sewer ascending into the house.

It has to be evenly poised so that the valve hangs straight down and keeps the aperture closed until the pressure of air from within is strong enough to lift the valve. Like a balance, it must be on a true level. Any negligent workmanship may defeat the whole object of the apparatus. The second indispensable condition is that the syphon trap shall always be full of water. Any scarcity of water might prove fatal to the system, for the seal would fail to prevent the sewer air travelling up into the house. Epidemics are known to have ensued when closets are used which have not been used for a certain time. The water has evaporated from the traps and the sewer air has thus been able to enter the house. This, for instance, occurred at Brussels. Many cases of typhoid fever were noted in the wealthiest and most fashionable part of the town when the inhabitants of luxurious houses returned after the holiday season. During their absence no one had thought of flushing the house drains, the water in the syphons evaporated, and these dwellings were reeking with sewer air by the time their owners returned. The sewers of Brussels are not self-cleansing sewers, so that the danger was much greater than will be the case in Cairo if the ideal of a truly self-cleansing sewer is realised. For that purpose, however, there must be sufficient water. For the houses that are to drain direct into the sewers and are to be protected by the intercepting and ventilating trap I have just described, it is estimated that there will be a supply of water amounting to 150 litres per head per day. This, however, only covers a very small part of the ground, and it is situated for the most part in the European quarter. At present the accommodation in the greater number of the private houses is so filthy and repulsive that a large proportion of the men prefer frequenting the mosques.

Mr. Carkeet James states that he has obtained from the mosques an estimate of the number of people using the mosque latrines and the water they consume. Roughly, about 150,000 daily make use of the mosque latrines, but out of 352 mosques no less than 259 raise water from their own wells, and only 93 subscribe to the water company's supply. Obviously the water from wells dug in such a soil as that of Cairo is only fit to flush closets. The Wakf administrators who control the mosque property have fortunately expressed their desire to help in the realisation of the drainage scheme, and the hope is also entertained that they will do away altogether with these very suspicious wells. In dealing, however, with the statistics relating to the mosques, there is the same hopeless tone against which I have already protested. Thus the estimate is made that in 1932 the number of persons frequenting the mosque latrines will be 215,000 per day; yet surely by that time the accommodation in the dwelling houses will have so improved that, in spite of the increase of population, there should be a decrease in the number of people making use of the mosque latrines. Besides, whatever is done at the mosques only concerns men. From a sanitary point of view women and children represent as important a section of the community, and a larger section.

Then, again, it seems to me that, in the plans and calculations formulated in regard to the public latrines, we have another illustration of a want of that faith in human progress which should constitute the spirit and the strength of sanitary reform. We are left to infer that these public latrines are a public necessity, not for those persons who are too far away to reach their homes, but as a substitute for the accommodation every home should contain. The public latrine is not to be a convenience, but it is to be a means by which it will be possible to postpone the supply of proper closets in private houses. It is proposed to construct about 400 urinals and latrines, having an average of ten seats each. Then there is the astounding statement that, deducting the upper classes and those who use the mosques, there will be in 1932 a population of 565,000 available for using the latrines daily, and they are magnanimously allowed ten litres of water each! If the 400 latrines are to have ten seats each, this makes 4000 closets for 565,000 people, or 140 persons for each closet. Our Common Lodging-houses Act is no grandmotherly specimen of modern legislation. Though it is one of the best among our sanitary laws it was enacted as far back as the year 1851. It does not legislate for the privileged classes nor for the upper classes so carefully parcelled out and set aside in the Cairo sewage scheme. It legislates for the outcast, the vagabond, the tramp, the beggar, the thief, the outlaw; and under the sliding scale of accommodation permitted by the Act the London County Council has declared that none of these social wrecks shall have less than one closet for every 12 inhabitants of a common lodging-house. This is the accommodation which in London is declared necessary for the poorest of the poor. Nor is this a mere affirmation of a principle. Throughout the length and breadth of the country the law is strictly applied on some such principle, and it has proved of the greatest benefit to the poorest and most degraded sections of the community.

Obviously the figures I have quoted are not serious. They represent simply an extreme statement, a calculation made to show that, even if a sufficient amount of water cannot, for the time being, be obtained, Cairo will nevertheless be drained; the cesspool will be abolished, the filth will reach the sewers, the contamination of the subsoil will cease, and an immense progress will be achieved. In every part of the great town the streets will have sewers. Instead of remaining in the town for years, soaking gradually into the subsoil and contaminating the surroundings, sewage, even if it is produced at the farthest extremity of old Cairo, will travel in less than five hours the whole length of the sewers and reach the sewer outfall in the desert, where it will be beyond the possibility of doing any harm. The far-reaching character of such a change is not easily to be appreciated by those who have no practical experience of such matters.

Remains the question of domestic drainage, especially that of the poorer houses and their connexion with the sewers. This is a phase of the problem that has not yet been settled. As it is of the greatest practical importance, it is fortunate that there is no need of immediate haste. The outfall and main sewers have to be built, and then must follow the branch sewers; the connexion with the houses is the last, the final, step. The nature of the house drains will depend first on the amount of water available, and secondly on the possibility of teaching the population how to make proper use of proper water-closets if these are supplied. In the meanwhile, Mr. Carkeet James is determined that there shall be no lack of public latrines, especially for the use of women and children. The plans and the drawings for these are already prepared, and they constitute conclusive circumstantial evidence to prove that the native Egyptian is capable of being taught to observe sanitary rules. Each closet will be provided with a tap on the right hand side, so that, according to the sacred law, water may be taken in the right hand while the left hand holds the clothes and helps to wash. Not only does the Mohammedan wash before prayers but after frequenting the latrines. Cheap paper being a European and comparatively modern contrivance, most Egyptians carry round, smooth stones in their pockets. These are of two sizes, the smaller ones being used carefully to remove and throw away with the stone the very last drop of urine. Such minute care is quite unknown among Europeans. But is it not obvious that if all these people can be taught to collect and carry about these stones for such purposes, and constantly to wash themselves according to a well-established ritual, they could with equal, with greater, facility be taught to pull a string so as to flush the pans and syphons of proper water-closets should these be provided? Indeed, when some years ago a public and paying latrine was opened in the Ezbekiyer Gardens the first person to patronise this establishment was a Greek. He, however, made a great disturbance when asked for the small sum charged, and not only left without paying, but it was subsequently discovered that he had purloined a towel and a piece of soap. The Egyptian is far more docile and easy to govern. Apparently, however, no effort is to be made to introduce the use of paper, for the plan of the public latrines provides catch-pits to collect the stones and prevent their reaching the sewers.

The details for the drainage of the dwellings of the poor have not yet been settled. Experiments will be made; there is no need of at once settling on a uniform plan. But it has, in any case, been decided to do away with the horrible and leaking cesspools which exist in many of these wretched houses. Further, a contrivance has been suggested which might be employed temporarily and until such time as proper closets can be introduced. It would prevent the contamination of the subsoil. The great fact is that sewers are about to be built; that there is every reason to believe that they will work well, promptly and safely removing the sewage which is emptied into them. How far the houses by the side of the sewers will avail themselves in a

thoroughly satisfactory manner of the facilities thus offered depends, I repeat, on the provision of sufficient water and on the intelligent understanding by the inhabitants of the purport of drainage. The British people were just as ignorant as the Egyptians, and far less docile and easy to teach. Nevertheless, though there are still dirty and careless people in England who degrade and destroy the sanitary accommodation provided for them, the construction of sanitary closets has, on the whole, worked well and largely contributed to the notable reduction in the death-rate. There is no reason why, with the exercise of tact and by careful teaching, that which has been done in England should not be likewise achieved in Egypt.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The University of Bristol.

AT a recent meeting of the Bristol city council it was decided, with hardly any opposition, to support the University by a rate of 1*d.* in the £. This will mean an addition to the University income of £7000 per annum; £4000 will go to meet ordinary expenditure, while £3000 are to be reserved for special purposes, particularly scholarships and exhibitions. By the recently published will of the late Sir Frederick Wills the University funds are to receive £5000. The scheme for the establishment of a hostel for women students has now gone so far that arrangements are being made to open a hall of residence in time for the coming session. It is hoped to begin in commodious premises, with a large sunny garden, situated in a high and healthy part of Clifton. The hall will provide separate study-bedrooms, common rooms, library, and all the essential requirements possessed by the women's colleges at Oxford and Cambridge.

The Bristol Royal Hospital for Sick Children and Women.

The annual meeting of the "Ladies' Auxiliary" of this institution was held on April 27th. The report showed that during 1908 34,620 houses had been canvassed by ladies and the record sum of £823 collected.

Sanitary Inspectors' Association.

The quarterly meeting of the south-western centre of the Sanitary Inspectors' Association was held at the Guildhall, Bath, on May 1st. The delegates were received by the Mayor of the city. Mr. Moss-Flower opened a discussion on "The Need or Otherwise of the Intercepting Trap in House Drainage." Subsequently the old Roman baths and the modern bathing establishment were inspected by the visitors, who were entertained by the Mayor.

Death Certification by a Midwife.

An inquest was held at Crowlas, Cornwall, on April 26th, relative to the death of the twin children of a local miner. Evidence showed that the mother of the children was attended in her confinement by a registered midwife and that one child died two days after birth and the other lived some five days later. The midwife gave a certificate that the children had died owing to premature birth, and the gravedigger of Crowlas Cemetery buried the children on the "authority" of this certificate. Eventually the coroner ordered the exhumation of the bodies and a post-mortem examination. The medical evidence showed that death was due in both cases to congenital inanition. The coroner (Mr. E. Boase) said that the midwife had behaved in an extraordinary manner and he should report her to the county committee as being unfit to be entrusted with a certificate, and he should draw the attention of the local authorities to the necessity of framing regulations for the management of the cemetery, as the grave-digger had stated in his evidence that "he considered he could bury six weeks' old children, which he termed stillborn, upon the certificate of a nurse." The jury returned a verdict in accordance with the medical evidence and added riders endorsing the views of the coroner.

The Taunton "Association to Aid Consumptives."

The annual meeting of the friends of the "Taunton Association to Aid Consumptives" was held recently, under the presidency of Dr. H. T. Rutherfoord. The report stated that nine patients had been admitted to the sanatorium during the past year and ten patients had been discharged. The financial statement was satisfactory and showed a favourable balance.

National Poor-law Officers' Association.

The Devon and Cornwall Branch of the National Poor-law Officers' Association held its quarterly meeting at Bodmin on April 24th, when Mr. J. Pethybridge delivered an interesting address dealing with the proposals of the Poor-law Commission. After some discussion the general opinion of the members was that the suggested change in Poor-law administration was not desirable.

The Exeter City Asylum.

At a meeting of the Exeter city council held on April 28th the resolution which was passed at a previous meeting to enlarge the City Asylum at a cost of £10,000 was rescinded by 27 votes to 22.

The Royal Mineral Water Hospital, Bath.

The annual meeting of the governors of the Royal Mineral Water Hospital, Bath, was held on May 1st under the presidency of Colonel M. Ricketts. The report stated that as the year closed on Dec. 31st last instead of in March as heretofore, the period under review was therefore only nine months. During that time the daily average number of in-patients was 144, compared with 147 in 1907–08. There had been a slight increase in annual subscriptions and donations but a deficit balance of £1018 remained. The committee regretfully records the death of Dr. Charles Coates who had been connected with the hospital for so many years.

May 3rd.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

A Deficiency in Medical Inspection Reports.

MEDICAL inspection reports from various surrounding towns and districts continue to appear and are published in a more or less abbreviated form. All the published reports show a certain average of bodily and mental defects which might have been thought to be easily recognisable without the expensive machinery now at work, yet none give any satisfactory account of the relation of defects to the bodily physique, though occasionally, as in Dr. W. C. Garman's recent report for Wednesbury, a statement appears that the children are below the normal standard and the average height and weight is given. No general attempt has yet been made to show any correlation between the unsatisfactory physique and the actual bodily deficiencies, and still less has there been any attempt to estimate the relationship of the physique of the children to that of the parents and to the staple employments of the district. At present, it would seem, a large State organisation is engaged in performing the duties of the parents, for any ordinarily thoughtful and careful parents, considerate of and desirous for the welfare of their children, would readily recognise the majority of the disabilities mentioned in the published records of medical inspection, and would have them attended to either by their own medical adviser or at one of the numerous medical charities. If their natural inclinations do not induce them to exercise proper parental care, parents should be stimulated to their duties by the imposition of penalties for neglect rather than encouraged to neglect them and transmit them to a State organisation, and they might also be called upon to report to the proper authorities any physical or mental disabilities likely to interfere with education. If this were done then the scientific skill at present largely occupied in mere recording could be utilised to investigate the relationship between the physical condition of the children and their environment and heredity, an investigation which promises much more useful information to the State than that which is published in this neighbourhood as the results of medical inspection.

The Women's Hospital.

Three very satisfactory features are noticeable in the annual report of the Women's Hospital. They are the reduction of the death-rate to 0·77 per cent., a diminished expenditure, and an increasing income. The total number of new and old patients treated was 18,845, or almost 1200 less than in the previous year. The number of new out-patients was 3573, being 181 more than in 1907. 742 in-patients

were admitted, a decrease of 37 as contrasted with the previous year, and there were 719 operations, of which 385 involved abdominal section. The decrease in the expenses is perhaps to be attributed to more careful supervision of detail. The increase of income is due very largely to the efforts of the recently formed Women's Hospital League, which has collected subscriptions of £57 and donations of £478, and in part to the fact that it has been possible to invest some of the legacies. In spite, however, of the improvement of the finances the excess of expenditure over income was £1020. Therefore work still remains which will test the ability of the Women's Hospital League.

The Birmingham Infants' Health Society

The report presented at the first annual meeting of the Birmingham Infants' Health Society contained not only a record of good work accomplished but also a promise of still better results in the future. So far the work has been limited to one of the worst districts in the city, St. Bartholomew's ward, which contains a population of 22,759 in a space of 313 acres. It is therefore a crowded population and its infantile mortality is 201 per 1000, a figure which clearly indicates deplorable conditions. After the society was formed an infants' consultation was started and in connexion with this 204 children were registered, of whom 190 were under 12 months old. 43 of the 190 were lost sight of, leaving 147; of these, 14 died, giving an infantile mortality-rate of 95·2, which contrasts very favourably with the general rate for the whole ward. Naturally, for several reasons, too much stress cannot be laid upon this figure at present, but it is a hopeful sign, and its significance is increased by the fact that not only was improvement noted in the children but also in the cleanliness of their mothers.

Two Health Reports, Mid-Warwickshire and Smethwick.

The record of falling birth-rates has become so monotonous and regular that one is inclined to accept as inevitable Dr. G. Wilson's report of a slight but still further fall in Mid-Warwickshire from 23·7 to 23·3 per 1000 for the total population, the variations being from 29 in the Southam rural district to 19·4 in the Warwick rural district. On the other hand, Mr. W. F. Marsh Jackson's report of a slight but distinct increase in the Smethwick district is very pleasantly surprising, and Smethwick's birth-rate of 30 per 1000 compares very favourably with the general rate for England and Wales, which is 26·5 per 1000. When the infantile death-rates are contrasted, however, Smethwick's position is not so favourable, the death-rate for Mid-Warwickshire being 88 per 1000 for the combined districts, as compared with 110 per 1000 as the average for rural and small urban districts in England and Wales, whilst Smethwick's rate is 135 per 1000, which does not compare well with the well-populated district of Yardley in the Mid-Warwick area, where the infantile death-rate was only 100 per 1000. Clearly there is room for the work of an infants' health society in Smethwick.

The Diagnosis of Syphilis of the Nervous System.

At the last meeting of the pathological and clinical section of the Birmingham branch of the British Medical Association Dr. F. W. Mott opened a discussion on the diagnosis of syphilis of the nervous system with a brilliant and lucid paper which embodied the results of his own long experience and extensive researches. He emphasised the extreme importance from the point of view of treatment of an early differential diagnosis between syphilitic, pseudo-syphilitic, and parasyphilitic conditions. He laid great stress upon the ruder and coarser results produced in the earlier stages as contrasted with the more insidious and persistently progressive effects of the disease in its later periods, and he expressed the opinion that whilst great reliance could be placed upon the curative action of a proper course of mercury in the earlier stages that drug was little use, if not even harmful, in the later stages. It was generally admitted that the differential diagnosis was in many cases extremely difficult, but it could be made practically certain by careful examination of the cerebro-spinal fluid and the use of the Wassermann reaction. Unfortunately the Wassermann test is not one that can be applied in ordinary practice nor even in hospital wards, and at present it cannot even be made in many otherwise well-equipped pathological departments; it is hoped, however, that before long it will be possible to apply the test in the University pathological laboratory.

May 4th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Dr. E. W. Hope's Silver Jubilee of Office: Interesting Presentation.

A PLEASANT gathering was held on April 30th at the Municipal Offices, over 170 members of the sanitary staff of the corporation assembling to do honour to the medical officer of health (Dr. E. W. Hope) who recently completed 25 years of civil service. Dr. A. A. Mussen (assistant medical officer of health) presided over the enthusiastic gathering, which included all the lady sanitary inspectors, each of whom carried a few flowers and so lent a festive aspect to the proceedings. The chairman, before presenting Dr. Hope with an illuminated address and an antique silver tankard, spoke of his distinguished services and the zeal which he had shown for the highest interests of his staff. Not only were Dr. Hope's annual reports among the best of their kind, and thus nationally recognised, so that his position as an authority on public health was very high, but his evidence on sanitary matters was sought in the law courts and before Royal commissions and departmental committees, while he was often consulted by Government officials. All the members of Dr. Hope's staff trusted it would be long before he qualified under the retirement scheme, and personally he (Dr. Mussen) thought this celebration of 25 years' service was a splendid idea. The prestige of the staff was now at its highest, and Dr. Hope was a chief who always gave credit to those who worked well for him. He wished Dr. Hope might be spared for another 25 years. Other officials heartily endorsed Dr. Mussen's remarks. Dr. Hope, in accepting the presentation, said it was difficult to realise that he was in his twenty-sixth year of service while seeing present faces which had been around him all those years and which were so little changed. The most important duty of his early days as medical officer of health was to certify patients suffering from typhus fever. Within the first six months he certified more than 1000 such patients, but to-day typhus fever was looked upon as a rare disease and as pointing to something which ought not to exist. The city had 25 years ago no municipal hospital and he had to depend on the good offices of the boards of guardians, which rendered the city admirable service then, and had done so ever since. Even when a city infectious hospital was opened in Grafton-street it was sometimes so difficult to induce a patient to go there that a magistrate's order had to be obtained, and the patient compelled by force to enter the hospital. Nowadays, if the patient was not promptly taken to hospital the relatives and friends quickly wanted to know the reason why. 25 years ago there was no system of notification of infectious diseases. His staff was then small, only about a dozen. Since then, however, a series of Acts of Parliament, some being originated by the Liverpool corporation, had been put into operation, with a consequent increase of the health office staff, while the central growth and extension of the city from 450,000 inhabitants to over 750,000 had been accompanied by an automatic multiplication of inspectors. The sanitary work of the port, through which as many as 400,000 emigrants passed in a single year, and the enormous importation of foodstuffs, had led to enlarged work for inspectors, while the task of caring for the health of the children in the schools was only just beginning, and the notification of births would lead to still more duties being cast on the health office. What was there to show for all this sanitary zeal? Well, unhealthful conditions had been swept away which if present to-day would shock the public eye, so that on the negative side there was much to be credited to sanitation which was invisible. There was, however, one great fact to be proud of and to be seen—the remarkably improved health of Liverpool. That was the reason of the existence of his office—the improvement of the public health. It was by one continuous, united, concerted effort that improvement in the health of the city had been effected. The improvement had taken place, not only in the old parish and Parliamentary borough of Liverpool, but in all the districts which had been absorbed in the municipal area. One great argument against the absorption in 1895 was that the health of the out-townships was so good that it could not be improved. Improvement, however, as great as that

in the old parts of the city had been since wrought in the suburbs. The Town Planning Act, which by the provision of wide streets and open spaces was to prevent a repetition of the errors of the past, would result in a further great development of sanitation. Moreover, people were increasingly willing to listen to advice concerning their health and that of their homes, and he was glad to say the poor people were as amenable and as willing and anxious to do what they could for themselves in a sanitary sense as any other class. In short, sanitary science had reached a stage at which the city and the nation would advance at an accelerated rate. He would always prize the beautiful gifts he had received.

The Sleeping Sickness Expedition of the Liverpool School of Tropical Medicine.

At the last meeting of the African trade section of the Liverpool Chamber of Commerce Dr. Allan Kinghorn, a member of the sleeping sickness expedition, gave an address upon the investigation of sleeping sickness. He pointed out that the tsetse fly had a wide distribution over the whole of the territory with which the expedition had been dealing, and cattle diseases due to varieties of trypanosomes, and referable finally to the agency of this fly, were abundant everywhere. The absolute safety to life ensured by European administration, the opening of markets for the sale of local produce, and the demand for a constant and abundant supply of labour had resulted in an unprecedented movement amongst the native population; and, as until recently no checks had been imposed on this, many new foci of sleeping sickness had been established, for which we were now paying the price. Most Governments were taking action, but the harm was done before the cause and method of spread of the disease were known. It was formerly thought that only the negro race was affected. The comparative safety of the white man was due to his clothes and the other conditions under which he lived. Wherever the glossina palpalis existed in the presence of an infected person there existed the danger of the spread of human trypanosomiasis. Whilst this species of fly, known as the river fly, was capable of transmitting the disease, some doubt existed as to whether it was that fly only which could do so. He considered it safer to hold the view that other species of tsetse fly might transmit it also. In order to check the spread of the disease the indiscriminate movement of the native population must be controlled. The glossina palpalis required shade and could be got rid of by making clearances along water courses which must be thorough. International coöperation was necessary in dealing with sleeping sickness.

May 3rd.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The Appointment to the Department of Pathology in the Royal Infirmary and College of Medicine.

IN a former letter I drew attention to the fact that the house committee of the Royal Victoria Infirmary had come to the conclusion that the time had arrived when the work of the pathological department should be in the hands of a skilled pathologist devoting his whole time to that branch of medicine. Feeling, very properly, that it was desirable, if it could be arranged, that the infirmary should associate itself with the College of Medicine in taking this step a conference was arranged between the two institutions to discuss and if possible to come to some mutual arrangement whereby they should make a joint appointment. The outcome of the conference was the appointment of a joint committee to advertise for and select a candidate for the position of pathologist to the infirmary and lecturer on pathology at the College of Medicine. In response to its advertisement the committee received applications from a number of suitable candidates, and after duly considering these it recommended that Dr. Stuart McDonald, M.D., F.R.C.P. Edin., be appointed. This recommendation was approved by the house committee and by the College, and Dr. McDonald has therefore been appointed. Dr. McDonald is at present lecturer on pathology and bacteriology in the School of Medicine of the Royal Colleges, and School of Medicine for Women in Edinburgh, pathologist to the Royal Hospital for Sick Children and to Chalmers' Hospital, Edinburgh, and examiner in pathology for the Conjoint Board for Scotland. The committee is to be congratulated upon its selection of a candidate and Dr. McDonald upon his appointment to this new and important position in the profession in the north of England.

The Newcastle Sanitary Committee's Estimates.

The Newcastle city council has reduced the estimates presented by the sanitary committee for the ensuing year by £3000. The corporation decided that, in view of the present state of trade depression—which in the opinion of those most competent to judge, shows no signs of immediate improvement—it was desirable that there should be no increase in the rates. The various committees were therefore instructed to exercise the most rigid economy in preparing their estimates, and though this was presumably done the sanitary committee has had its estimates altered as stated above. In view of this restriction upon its expenditure the sanitary committee has notified four of its health visitors that it can no longer retain their services. This is a very serious matter for the four women, who thus lose their appointments through no fault of their own, and they are deserving of every sympathy in their present unfortunate position. This decision of the sanitary committee raises an important question of principle, for if the precedent thus set up of dispensing with officials during an outburst of economy be followed it naturally results that capable persons will be very chary of accepting positions under a corporation which is likely to discharge them for no better reason than that it is unwilling to ask for the money wherewith to pay their salaries.

Death of Dr. James Limont.

It is with much regret that I have to record the death of Dr. James Limont, which took place in Edinburgh on May 1st, after a lingering illness which lasted some two and a half years. Dr. Limont was a son of the Rev. W. Limont, a Presbyterian minister, and was born at Alnwick on April 9th, 1856. He was educated at Alnwick Grammar School and subsequently at Edinburgh University, where he graduated M.A. with honours in 1878, B.Sc. in 1879, and M.B., C.M. in 1880. In 1882 he became a Member of the Royal College of Surgeons of England and was admitted a Member of the Royal College of Physicians of London in 1886. After qualifying in medicine Dr. Limont was appointed house surgeon to the Edinburgh Royal Maternity Hospital and the Simpson Memorial Hospital, and also became senior demonstrator of anatomy in the Minto House School of Medicine, Edinburgh. From Edinburgh Dr. Limont went to Glasgow to undertake the duties of house surgeon and house physician to the Glasgow Royal Infirmary, and it was during this time that he came under the influence of Mr. (now Sir William) Macewen. It is about five and twenty years ago that Dr. Limont came to Newcastle on being appointed senior house surgeon and house physician to the Royal Infirmary. In 1885 he was elected an honorary physician to the infirmary and was reappointed to that position in 1900. Dr. Limont devoted himself especially to the study of diseases of the skin and was appointed a physician in charge of the skin department at the infirmary some 14 years ago, and it is to his skill and unfailing interest in the work, ably assisted as he was during the last 11 years of his tenure of the appointment by Dr. D. Wells Patterson, that the department owes its present efficiency and importance. Dr. Limont was joint lecturer in clinical medicine and had been an examiner in medicine in the University of Durham. In the College of Medicine Dr. Limont held the lectureship in medical jurisprudence. Dr. Limont was a man somewhat reserved in manner, but to those who enjoyed his confidence he was of a genial disposition and a very true friend. His death will be a great loss to the teaching staffs of the infirmary and the College. Dr. Limont leaves a widow, one son, and four daughters.

May 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Observations on Growth.

AT a recent meeting of the Royal Philosophical Society of Glasgow a paper was read by Dr. Arnold H. Gray on the Laws of Individual Growth. Dr. Gray began by stating that he had obtained a long series of records of the rate of growth

of boys from one of the public schools, and that he had made a series of observations on the mode of growth in animals and plants. The work had been undertaken because, although there was a large amount of information on average growth, at present very little existed concerning the different methods of individual growth. From the series of school observations where the heights and weights were taken at frequent intervals it was found that the rate of growth might be regular, irregular, or cyclic. In the regular type the child increased at a uniform rate. This type was not common in the human subject, occurring in only 12·3 per cent. It was also rare in the case of rabbits and guinea-pigs, but was the usual mode of growth in the internodes of plants. The irregular type was the common form in man, and found to the extent of 83 per cent. Growth was interrupted for periods of indefinite length, when the increase was slow or completely suspended, this stage being followed by another, when growth perhaps was very rapid. This was also the usual type found in rabbits and guinea-pigs. In the cyclic type variations in the rate of increase occurred in a definite order, forming a succession of waves in the curve of growth. It was very rare in man, being observed in only 4·7 per cent. of the cases. It was only occasionally seen in rabbits, though it was representative of the mode of many of the lower animals. In Belvidere Fever Hospital 1395 children suffering from infectious diseases had been weighed and measured on admission and dismissal. The average rates of growth in scarlet fever, measles, and diphtheria were slower than the average rate of growth of children at the same age. In normal children spurts of very rapid growth occurred, and in children suffering from fevers only 65 out of 1395, or 4·6 per cent., showed extreme activity of increase. According to Dr. Gray, temperature, nutrition, and conditions of housing, though affecting growth in general, did not influence the type of growth. The child was born with a tendency, possibly hereditary, towards one form of growth or another, and external agencies played little, if any, part in determining regularity, irregularity, or cyclic variations in the rate of increase.

Consumption in Lewis.

Dr. D. Murray, medical officer of health of the parish of Stornoway, has issued his annual report. He states that through lack of funds, as far as the general sanitary conditions are concerned, the problem remains untouched, although during the year there has been some little improvement on village water-supplies by sinking new and protecting existing wells. To meet the sanitary situation of the island, Dr. Murray suggests as the minimum requirements: (1) education of the people in sanitary matters; (2) practical instruction in hygiene of the school children; (3) an improved type of dwelling-house; (4) loans for building houses and the removals of cottars from congested crofts to "skinned" land; (5) water, drainage, and scavengering schemes; and (6) the rural policemen to act as sanitary inspectors. Anent the last suggestion, Dr. Murray remarks that all acquainted with the social condition of Lewis know that outside the burgh of Stornoway the policemen have practically nothing to do but walk their beats; and he expresses the hope that the red-tape officialism, which divides the public services into water-tight compartments having no connexion with each other, will not be allowed to stand in the way of the police acting as local sanitary inspectors, and doing, as with some training they could, splendid work in the interests of sanitation and public health. Regarding consumption, the statistics are startling. The report states that in the landward part of the parish of Stornoway last year there were 25 deaths from phthisis, and four others from other forms of tuberculous infection. Within the burgh there were nine deaths from consumption, a total of 34 for the whole parish. "If these deaths," the report proceeds, "resulted from fever, the community would be panic-stricken, and ready to make any sacrifice to arrest the plague. While phthisis is too insidious in its operations to have such a dramatic effect, it is an immensely greater menace to the life and well-being of the young people of Lewis than even fever was in its worst days." Dr. Murray is preparing a special report on consumption to emphasise matters, and to suggest lines of action, discussion of which may lead to something being done to arrest the progress of the disease.

University of Aberdeen: Summer Session.

The summer session at the University of Aberdeen commenced on April 27th. The attendance at most of the classes was quite up to the average of former years.

Aberdeen Water-supply: A Serious Pollution.

The water committee of the Aberdeen town council paid a visit recently to the irrigation works at Tarland and Lumphanan, where it was reported contamination of the city's water-supply was taking place. At Tarland the committee found that the tenants who had obtained possession of the ground from the district committee had diverted the sewage from the irrigation field and that it was discharging direct into the stream which joins the Dee at Aboyne. At Lumphanan an even worse state of affairs was found, the ground being absolutely sodden and no irrigation taking place. At both places it was evident that this dangerous condition of affairs had been going on for some time. The committee resolved at once to draw the attention of the district committee to the matter.

May 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Second Congress of Physico-therapeutics.

THIS congress was opened on April 13th under the presidency of the Dean of the Paris Faculty of Medicine, Professor Landouzy, who inaugurated the proceedings with an address, pointing out the importance of physical methods of treatment and the necessity for basing their use upon the results of a daily clinical examination. The subject first on the list for discussion was Physical Agents in the Treatment and Diagnosis of Infantile Paralysis. M. Gunsberg of Antwerp, who spoke first, gave an account of the rôle played by mechano-therapy. M. Hirschberg of Paris said that massage, properly speaking, did not cure the paralysis due to the poliomyelitis but was a very useful agent in overcoming the muscular atrophy. Its action ought to be enhanced by motor re-education and gymnastics. M. Libotte of Brussels said that in the acute stage of the disease hydrotherapy seemed to be the only method capable of reducing the inflammation of the spinal cord. Once, however, the paralysis was established this method of treatment could only be considered as an adjuvant to other methods. M. Kouinjy of Paris spoke on the importance of re-education and gave an account of its technique and the indications for it. M. Marques of Montpellier discussed electricity both for diagnosis and treatment. The second question down for discussion was—Physical Agents in the Treatment of Acne and Acneiform Lesions. M. Dausset of Paris, in opening the discussion, said that he did not consider that Bier's method played a very important part in the treatment. For his own part he considered that hot air was useful in the form of a douche as an adjuvant to massage; the suction glass was efficacious, but its employment was difficult and patients disliked it. M. Gastou of Paris said that radio-therapy was the logical method of treatment, for it had a distinct physical and chemical action on glands and might even cause them to atrophy. M. Viel of Paris discussed the question from the dietetic point of view. Every patient must be dieted in accordance with his or her special individuality. M. Oudon of Paris held that the static or else the high-frequency discharge diminished and finally caused the disappearance of the seborrhœa and even of the comedones. It was thus an excellent preventive of further manifestations of acne and enabled the physician to empty and to cleanse the pustules of acute acne. M. Dubois of Saujon discussed the utility of the vapour douche. Various speakers next discussed the clinical and scientific objections to the use of physical agents in the treatment of disease by non-medical persons. All were of opinion that such a custom was highly dangerous. Varix and varicose ulcers were the next pathological conditions to be dealt with. M. Gaston Bloch said that massage was very soothing in painful varices but should be combined with gymnastics and gentle walking. M. Vermeulen dealt with mechano-therapy, and M. Bourcard devoted his speech to massage in phlebitis. He immobilises the limb but gives abdominal massage, which, according to him, reduces the temperature and modifies the composition

of the blood. M. Durey discussed hyperæmia in the treatment of varicose ulcers. M. Dubois advised local cold douches for non-complicated varices and hot douches in the case of those which were painful. M. Laquerrière mentioned other local treatments besides those which had for their object the modification of the nutrition and the circulation, and M. Bordet spoke upon the state of the muscles in the case of varicose limbs. Many other papers on various subjects were read at what proved to be an interesting an instructive congress.

Cocaine Anæsthesia for Dislocations.

At a meeting of the Surgical Society held on April 21st M. Quénu gave an account of this method. In a case of backward dislocation of the elbow he injected three centigrammes—i.e., just under half a grain—of cocaine into the triceps, and reduction was easily effected without pain. In another patient a 1 in 200 solution of cocaine was taken and one cubic centimetre was injected in three different places around the elbow-joint. In a dorsal dislocation of the thumb four cubic centimetres of the solution was injected in four different spots around the joint and reduction was painless. In a dislocation of the shoulder injection was made into the deltoid, the pectoralis major, and the latissimus dorsi. The dislocation was of the subcoracoid variety. An assistant abducted the arm and the head of the humerus moved into the axilla, when reduction was easy. Finally, in dislocation of the hip-joint three centigrammes of cocaine were injected at the outer side of the vessels into the cavity of the joint. Reduction was easy. The cocaine besides makes a clinical examination easy, for the spasm of the muscle ceases after injection into the articular cavity.

Treatment of Gangrenous Strangulated Hernia.

At the Forty-seventh Congress of Learned Societies recently held at Rennes from April 5th to April 7th M. Hardouin gave an account of nine cases of this condition on which he had operated. In these nine patients resection of the gangrenous mass was performed in six followed by immediate entero-anastomosis with three recoveries and three deaths. In two cases an artificial anus was made and there were two deaths. In one case the strangulated portion of the intestine was fastened outside, an artificial anus being formed spontaneously afterwards, and death resulted. Intestinal resection in a case of a strangulated gangrenous hernia is the method of election but yet is a very grave operation. In studying the French and foreign statistics of the operation M. Hardouin noted that of 986 cases of resection followed by entero-anastomosis 399 died—viz., a mortality of 40 per cent. In 620 cases of artificial anus there were 447 deaths, or 74 per cent. These statistics date from 1878 and since then the technique of intestinal resection has improved enormously with the progress of asepsis. In recent statistics the mortality of resection of gangrenous intestine has fallen to 33 per cent., and in cases where Murphy's button is used to 8 per cent. Intestinal resection, which is still but little performed in France, seems now destined to take one of the first places in the treatment of such lesions.

The Bacteriological Analysis of Sea-water.

At the same meeting of the same Congress M. Bodin and M. Sacquepee communicated a paper on the bacteriological analysis of sea-water. They had made researches on water taken from the bay of Cancale. This, when collected well out at sea (*au large*), proved to be very pure from the microbial point of view, containing only from 200 to 400 aerobic germs per cubic centimetre. If taken from a depth of three metres it contained more than the water taken from the surface. No pathogenic organisms were met with. Sea-water, moreover, even when polluted, purifies itself quickly. Thus water containing 16,500 bacteria per cubic centimetre when taken at the outfall of a sewer contained only 1100 when taken at a distance of 100 metres away and at 400 or 500 metres away its composition was the same as that taken *au large*—namely, it contained between 200 and 400 germs per cubic centimetre.

The Treatment of Furunculosis.

At a meeting of the Academy of Medicine held on April 24th M. Mauté gave the results of a treatment which he had adopted in a case of furunculosis. The patient was injected with an antistaphylococcic vaccine prepared by emulsionising the staphylococci obtained from his own pustules in physiological serum. The emulsion contained 250,000,000 of cocci per cubic centimetre and had been sterilised by repeated heating at 53° C. M. Mauté added that observation of patients treated in this fashion had shown him that the vaccine had an undoubted power in preventing the formation of fresh furuncles.

May 4th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The late Commendatore Bastianelli.

A MAN of light and leading in the hygienic world has been lost to Rome, and, indeed, to Italy, in the Commendatore Giulio Bastianelli, who, as an Italian colleague expresses it, "full of years and honours was gathered up like a ripe sheaf." No professional man was better known in the medical or municipal circles of the Eternal City or more highly esteemed for skill as an expert or for "sense of citizenship." Elected as assessor on the Communal Council, he presided over the department of hygiene, and at once the sanitary conditions, urban and suburban, were subjected to a scrutiny and an amelioration which have made the Rome of the last few decades hardly recognisable in her "change for the better." In 1884, when the "cholera explosion" at Naples numbered nearly 2000 victims in a few days and brought King Humbert from Upper Italy to allay the panic and to head the relief work, Bastianelli, in his capacity as hygienic assessor, closed the subsoil wells of Rome, and not only saved her from an imminent danger but protected her from future visitations. This is but one out of many innovations due to his vigilance and energy—innovations proceeding on lines now skilfully and steadily maintained. His two sons, it may be added, with whom in their great loss the citizens are now sympathising, honourably uphold the paternal name—the elder, Dr. Raffaele Bastianelli, professor of clinical surgery in the Roman school, having already given proof of his ability to perpetuate the traditions of his distinguished predecessors in the chair—Costanzo Mazzoni and Francesco Durante.

The Passing of the Duel.

Italy is now setting herself to a task the initiation of which has been too long delayed—that of abolishing the duel, a "method of barbarism" discredited and disused for more than half a century in the British Isles, but still (strange to say) considered not only right and proper but even "honourable" in a country which prides itself on its abolition of that other form of "capital punishment"—the gallows or the guillotine—by which society protects itself from its worst enemies. His Excellency Signor Orlando, Minister of Grace and Justice, following the lead of Signor Casana, lately Minister of War, and of His Excellency Signor Mirabello, Minister of Marine, is exerting himself in this salutary direction, and it is now but a matter of time—and short at that—when the "mediæval survival" will have gone the way of other practices hardly more unworthy of the twentieth century. The ladies of Italy have interested themselves actively in the question and, headed by the Contessa Sabina di Parravicino di Revel, have submitted a memorial signed by 3500 of their number to Signor Orlando, supporting him in the action he is about to take in Parliament "contro il duello." Another album, not less numerously and influentially signed by Milanese ladies, with the Contessa Elisa Trivulzio at their head, has been presented to the ex-Minister Casana, and his acknowledgment of the memorial is worth noticing as evidence of the opinion that has long prevailed in military circles against the solution of private quarrels by sabre or pistol. What he calls the "assurda è crudele consuetudine," if discountenanced by the upper classes, will react for good on the lower, where the use of the knife or stiletto is still justified by military or aristocratic precedent. Warfare nowadays by land and sea is far too serious a profession for the quixotic notions of "honour"—often invoked on the idlest pretences—to compromise the lives of men dedicated to their country's service. The personal vanity or susceptibility which, when ruffled, cannot be otherwise placated than by threatening or taking the life of the offender, betrays a weakness, moral as well as intellectual, amounting to disqualification for the strategy that precedes,

and the self-command that confronts, the sterner arbitrament of the campaign. With all which reasoning, expressed or implied in Signor Casana's deliverance, Italians are now in full agreement, eager as they are to rid themselves of all relics of that "civilisation" for which they find sufficient condemnation in the comprehensive epithet "mediæval."

May 3rd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Rare Localisation of Secondary Carcinoma Deposits.

At a recent meeting of the Medical Society of Vienna Professor H. Schlesinger demonstrated a case of typical neuritis of the inferior dental nerve, owing to a secondary deposit of carcinoma in the lower jaw. The patient, a woman aged 48 years, had had an operation done a year ago for carcinoma of the breast. Now metastatic growths are diffused throughout the body. Some four weeks ago the patient noticed pain in the left lower jaw, and examination now shows complete anæsthesia of the skin of the chin, within a line from the lower angle of the mouth to the margin of the lower jaw. The middle line is the median limit of the anæsthetic area. The lip and the gums are anæsthetic to the same extent. The teeth are not displaced. Similar cases have been observed occasionally, and in four of them Professor Schlesinger was able to confirm the diagnosis of carcinomatous deposits in the lower inferior dental canal by post-mortem examination. This localisation seems to be a typical one, as all cases observed hitherto have been very similar to one another. Three cases have been observed after mammary cancer and one after a prostatic cancer. All the cases showed remarkable identical features as follows. The middle line was always the border of the anæsthetic area, although one would not expect this to be so, owing to the anatomical relations of the nerve. There was always paræsthesia, pain appearing only very late in the course of the disease, although the nerve affected is a purely sensory nerve. There were hardly any motor disturbances in chewing, but morsels of food remained between the jaw and the cheek owing to the absence of sensation in this area.

A Case of Chronic Infantile Polyarthritis.

At the same meeting Dr. Algyogy showed a very rare case of chronic polyarthritis with disturbances of development of the long bones and cervical vertebræ, which had been under observation ever since childhood. The patient, now 20 years old, was affected in her sixth year by an inflammation of all joints except the vertebral joints of the dorsal and lumbar region. There was no fever at that time, but acute pain all over the body. The attacks lasted, with slight interruptions, for three full years. The girl shows an abnormally small degree of bodily development. All long bones, most markedly the bones of the upper extremities, are short but straight. The joints are thickened, the cervical vertebral column is hypoplastic, its motility is diminished, especially for movement backward and towards the right side. Skiagrams show that the inter-vertebral discs are much smaller and thinner than normal, and that there are many exostoses on the ankle joints. The carpal bones are so deformed by exostoses that they cannot be differentiated, and all the bones of the body appear to be atrophic. There seem to be only five cases of this kind on record in literature and in all cases nothing could be done to improve the condition.

Compulsory Gymnastics for School Children.

A circular of the Ministry of Education forwarded to all public and private schools some short time ago deals with the important question of gymnastics for all school children during and between the regular school hours. "The increase of mental work thrown upon the growing body," so says the circular, "necessitates a counterweight in shape of bodily exercise to promote circulation and removal of waste material from the organs." This sensible language is so unusual in our red-tape system that it deserves to be taken notice of. The Minister requires all teachers to institute at least four times per week a regular hour for gymnastic exercises, and as there are between 26 to 30 hours per week of mental work in school, this is not too much. Examinations of school children, conducted by the small number of school doctors at present appointed in this country, have already had the gratifying result of inducing those responsible for the welfare of the growing generation to pay special attention to questions of school hygiene. It has been ascertained that in many cases the mental overstrain had led to anæmia, to scoliosis, and to neuroses such as chorea and anorexia. Girls were found to suffer specially from such conditions, as bodily exercise is still regarded as "improper" for girls in many classes of the population. The modern trend of thought in the bureaucracy is mostly due to medical influence, as various medical men have now an opportunity of putting their up-to-date ideas into force through the medium of the Ministry of the Interior and Education.

The Question of Nurses and Hospital Attendants.

A grave breach of the rules committed by attendants in our largest lunatic asylum has caused much comment and elicited severe criticism of the system in force at the present time. It appears that a man suffering from general paralysis in its turbulent stage became somewhat noisy in the ward at night time, whereupon three attendants tried to quiet him. But their attempts were useless, so they took a wet blanket and wrapped the unhappy man in it, to render him unable to move. During these "attempts" much force and violence seem to have been applied, for the man died a few hours later, before the morning visit of the house physician. A post-mortem examination revealed a recent fracture of the larynx, besides many other injuries. Of course, the attendants were at once handed over to the police and are committed for trial for murder. But the fact that such violence is possible in a public institution has roused the indignation of the public, and in a communication to the press the managing board of the asylum tried to explain matters by stating that the male attendants came from the lower classes of the population. As a fact, the position (and pay) of hospital nurses and attendants for insane persons is generally a bad one. Only quite recently, during the last International Congress on the Care of the Insane, this question was made the subject of various papers and the complaint that the nurses were of very inferior class generally admitted to be justified. Various suggestions to improve matters have failed hitherto. But it is very likely that the above-mentioned grave incident will suffice to awaken the responsible authorities to the necessity for obtaining duly qualified nurses with adequate salaries for the patients. The last point is the *punctum saliens*, for the salary of these people is so poor that nobody is prepared to accept it if he can help it. Including all extras the fixed pay amounts to 15*s.* a week, without board. This is the real explanation of the situation and there is only one measure necessary to obtain good attendants—namely, more pay.

April 28th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The New Sultan and his State of Health.

THRILLING events have occurred here in rapid succession since my last letter. The formidable intrigues of the palace camarilla, the terror of the soldiers' mutiny, preceded the calm, determined, heroic invasion of the Macedonian besieging army. Then came the bombardment and bloodshed, the final deposition of Abdul Hamid, and the enthronement of Reshad Effendi under the name of Mohammed V. At last the grievously tried population of the Ottoman metropolis is able to cheer up and to look into the future with new courage and new confidence. Deep sighs of relief are heard on all sides and at every turn. The old system of tyranny and oppression, of treachery and espionage and murder, of reckless dissipation and desperate cruelty is believed by all to be at an end. The "Red Sultan," for 33 years the dread and scourge of his nation, is exiled to ancient Salonica, which will, in the historic annals of the Ottoman people, be probably regarded as the birth-place of Turkish liberty and the grave of Turkish despotism. Amid all the late events one thing stands out—the admirable behaviour of the army. Resolute and intrepid, they accomplished their end and brought about, without unnecessary bloodshed, a situation which should now develop on uninterrupted and rational lines. The new Sultan is fully cognisant of what he and his people

owe to this self-sacrificing courage, though he himself does not possess the necessary qualities of a strong monarch. The long life of utter seclusion and privation has, it is feared, sapped his energies and reduced his vitality to a deplorable degree. To lovers of constitutional government this may seem so much the better for his country and his people, as the parliamentary government of Turkey will henceforward be able to act more freely. The new Sultan's health gives cause for anxiety. He is said to suffer from Bright's disease and gout. I saw him on several occasions and was struck by his extremely sluggish manner of moving and talking. His eyes are suffused, his face is puffy, and the expression of his look is vague and sad. His whole figure, somewhat stoutish and curved, speaks of mental and physical suffering. He looks his 63 years. He is reputed to be of a very kindly disposition and a friend of European civilisation. He is fond of the English, writes verses in Persian, and plays the piano with considerable skill. In his long seclusion he read many scientific books and frequently also books on matters of medical and surgical interest. He is said to be fond of physiological experiments. The population received his accession to Othman's throne with enthusiasm.

The Wounded and Dying.

The Hamidié Hospital is filled with wounded and dying soldiers, officers, and volunteers who fought at the last fierce encounter with the regiments of Abdul Hamid. Almost every available place in the hospital is taken and the beds in each pavilion are very close to one another. One room is reserved for the severely wounded, another for hopeless cases, a third for the merely exhausted or those who have sustained but slight injuries. Almost all the soldiers have been struck with bullets either in the feet or the legs. The officers, however, have wounds in the head and chest. The Turks are good patients; they smile in their suffering. One of the nurses of the hospital met with a tragic death. She was struck by a bullet which traversed the verandah in front of the building and penetrated the pavilion where she was attending to the wounded. The hospital Sourp-Agop of Pancaldi above Pera has accommodated about 30 soldiers who sustained grave injuries during the fierce assault on the barracks of Taxim and Tash-Kizla, where a detachment of the deposed Sultan's troops refused to surrender to the besiegers. The great hall of this hospital has acquired a historic interest, as the national hero, Enver Bey, one of the originators of the constitutional movement, conducted from this place the command of the attack in person.

April 30th.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

Ningpo Mission Hospital.

SOME fine records of work are shown in the reports of various mission hospitals, and one cannot but be impressed with the wide field there still is in China for surgical and medical research. From the twenty-second annual report of the above hospital, which is supported by the Church Missionary Society and is under the charge of Mr. A. F. Cole, it appears that during 1908 there were 636 in-patients, 11,857 out-patients, and 358 operations. Out of 67 operations on the eye 50 were for entropion, a trouble to which the large eyelids of the Chinaman, coupled with the widespread prevalence of chronic granular conjunctivitis, make him specially liable. One case is mentioned of bilateral elephantiasis of the vulva, and there were three cases of congenital absence of the anus. There were also three double amputations for symmetrical gangrene. I have referred to the queries received from time to time as to possible openings for medical work in China. The following paragraph in the Ningpo Mission Hospital report shows that there is at least one place where help would be welcomed:—"In the early part of the year an attack of blood poisoning, contracted whilst operating on a baby with cancrum oris, laid me aside for a time, and the experience of that time, together with the subsequent weakness, made me long for a colleague: there would seem very small hope of such a man being sent at present, so many places calling for reinforcements." The hospital is in possession of an x ray apparatus which has been much in use.

Symmetrical Gangrene.

In the three cases referred to above Mr. Cole could find no demonstrable cause. One was a girl, aged five years, with gangrene of both feet. Another was a man, an actor, aged 35 years, with no history of exposure or syphilis, &c., on whom likewise a double amputation was performed. The third case, a boy of 14 years, of well-to-do family and no history of exposure, was the worst. His fingers were unaffected, but gangrene appeared in both feet, the back of each calf, the mid-tibial regions, the front of both patellæ, the helix of each ear, the tips of the shoulders and elbows, malar eminences, chin, and both lips. The lower lip separated, as did also the lower portions of the legs, leaving the bones exposed, necessitating a double amputation. Blood films showed a double infection of tertian malaria. A good recovery was made which seemed to date from the commencement of quinine. There was no hæmoglobinuria or albumin in any form, no evidence of cardiac disease or senile endarteritis, nor a history of diseased grain or ergotism in any of the three cases. In Mr. Cole's opinion the condition is evidently due to some toxic agent acting directly upon the nerve-supply of the arterioles, causing tonic contraction of the arterioles. There are vegetable toxic agents in China of which very little is known except that they cause gangrene. No suggestion of these could be found in these three cases. Dr. A. A. MacFadyen of Su-chou-fu, writing last July to the *China Medical Journal*, inclosed specimens of weeds widely used by natives as a vegetable, which are said by them to poison about one out of every 100 that eat them. He noted great swelling of the head and hands but no intestinal symptoms. They developed high fever and then a superficial gangrene, limited strictly to the exposed parts of the body. Under the clothing there is no œdema or gangrene—a fact made more striking by a few cases where the clothes had been worn open and gangrene appeared on the breast to the same extent. With regard to Mr. Cole's cases, I might add that Ningpo is a large town on the banks of a river surrounded by an alluvial plain intersected by canals and irrigating ditches for the cultivation of rice, for which the fields are kept flooded from June to the end of October. Its temperature ranges from an absolute maximum of 98° to a minimum of 45° F. On the whole, the foreign population has good health, but the native population suffers much from diarrhœa and dysentery, malarial fever being also very prevalent among them.

The Leper Home at Tungkun, South China.

This institution is under the charge of Dr. J. J. Kuhne, and was established near the site of a Chinese leper settlement which had fallen into a bad state. There is an average of 125 inmates. During the past year, of 38 adult lepers who died 26 were affected with tubercular or skin leprosy, with an average duration of life, after the disease began, of 12 years; while that for the 12 others affected with nerve leprosy was 10½ years. The fact that leprosy is contagious, but not hereditary, was proved by the Commission in India, and this view is further supported by Dr. Kuhne, who asked 167 lepers and found that 56 had a clean family history. In three cases a great-grandfather was a leper, in another a grandmother, in 13 a brother and sister, in five the father or mother, in six although the parents were affected it was easy to trace how the disease was communicated. The most striking case was that of a leper whose father became infected at 80 years of age; he had lived with his son, who had been ill 12 years, without taking any precautions. The two drugs which have been found of any service are alphozone and nastin. The former is the favourite drug of the lepers, and in addition to its value as an intestinal antiseptic in the cases of dyspepsia, diarrhœa, and dysentery (which are usually of bad omen and a sign that the intestine is affected), it seems also to exert a tonic influence. Injections of nastin in cases of nerve leprosy have, on the whole, effected an improvement, though it has not been a uniformly successful drug. In several cases the injections were followed by headache and giddiness. Leprosy exists all over China, not to any great extent in the North, but in Central and South China it is frequently met with. While lepers in most places are allowed to roam free, there are settlements here and there in which they are segregated, but never strictly so. The native sovereign remedy for the disease consists of the leaves of *Xanthium strumarium*. The Chinese describe five different forms of

leprosy. In one the skin dies, indicated by loss of sensation; in the second the flesh dies and no pain is felt in cutting it; in the third the blood dies and ulceration and pus are formed; in the fourth the tendons die and hands and feet drop off; in the fifth the bones die, the nose is destroyed, and the eyes, throat, and lips become involved. They ascribe as causes, climate, infection, defective nutrition, and the air of graves. In addition to the Tungkun Hospital there is also a leper asylum supported by the London Missionary Society at Hiao Kau in Central China which has no lack of patients.

The Tainan Hospital.

In the island of Formosa, opposite Amoy, there is an active hospital. The operations performed here during the past six years were 6250, of which 2173 were on the eye, and there were 2400 in-patients last year. Dr. J. L. Maxwell, senior, places a plea for a colleague among the first of his needs; he feels the stress of operation work from 8 to 12 or 1 o'clock daily in addition to the many other duties. Among a series of interesting cases he mentions an instance of the transition from the old to the new ideas attended by serious consequences. In adjoining beds were two patients, one still under the sway of old superstitions and the other prepared for the adoption of new methods. One, the father of the other, had fallen ill and the remedy demanded was human flesh. The dutiful son therefore took a hatchet and chopped off a finger to satisfy his father's needs and came to hospital to have the stump healed.

Peking, April 14th.

Obituary.

THOMAS WILLIAM NUNN, F.R.C.S. ENG.,

CONSULTING SURGEON TO MIDDLESEX HOSPITAL.

Mr. Thomas William Nunn, whose death we announced in a former issue, was born at Royston, Herts, in 1825 of parents belonging to the Society of Friends. He was educated at King's College, London, among a distinguished group of contemporaries, when Fergusson was still a prominent teacher, and Nunn himself took a part in the work of the anatomical department before transferring his energies to the medical school established at Middlesex Hospital, when the famous anatomy school of William and John Hunter in Windmill-street ceased to exist. In 1846 he qualified M.R.C.S. Eng., obtaining his Fellowship 11 years later. Mr. Nunn passed on to the surgical staff and continued in charge of the general wards and those set apart specially for the treatment of cancer till 1879. In an early part of his career he published observations on anatomy, amongst which was a pamphlet illustrating the natural division of main arteries into what he termed segmental and trans-segmental branches for the supply of the proximal and distal segments of the limbs respectively. Later publications were largely on the subject of cancer, in which he took the keenest interest and which he had special opportunities of observing. After retiring from active participation in hospital work, Mr. Nunn, as consulting surgeon, published accounts of 1000 cases from the cancer wards in book form. He was also consulting surgeon to the Central London Throat Hospital and to the London Hospital for Skin Diseases, a past vice-president of the Pathological Society of London, and Medical Associate of King's College, London. Mr. Nunn was at one time a lieutenant of the 3rd Middlesex Militia and honorary surgeon-major (V.D.) of the Volunteer Forces.

As a teacher he was deservedly popular, and his old pupils still refer affectionately to "Tommy Nunn," who lightened their labours with his good humour and facilitated their comprehension of difficult matters by his skill as a draughtsman and frequent colloquial expressions. Eminently practical and always kind, Nunn set a fine example in dealing with patients who were likewise his friends in the days when medical teaching was perhaps less academical than it is to-day. His association with Middlesex Hospital was maintained by his continued attendance at committees and again and again as chairman at convivial gatherings. Perhaps his last prominent appearance was as the central figure in a photograph of the medical staff taken in the hospital garden as recently as the end of 1908. Those who had known him well marked the change which recent years had wrought in him, and though he survived the winter, he suffered in the spring from the prevailing epidemic of influenza, attended chiefly by gastric symptoms, and succumbed to sudden heart failure shortly after removing to his country seat at Kneesworth at the ripe age of 84 years.

Mr. Nunn was twice married, first to Isabella, daughter of Mr. Kenneth Macleay, of Newmore, Ross-shire, and secondly to Rosalie, daughter of Mr. George White, of Kensington, who survives him. He had no children. The interment took place in Royston cemetery on April 19th.

SEPTIMUS GIBBON, M.B. CANTAB., M.R.C.P. LOND.

Dr. Septimus Gibbon, whose death was recently announced, was the son of William Gibbon, a medical man of Kettering, and was born in 1825. He was educated at Cambridge, being a scholar of Clare, whence he graduated M.B. in 1851. From 1851 to 1852 he was resident medical officer to Addenbrooke's Hospital and he became a Member of the Royal College of Physicians of London in 1852. In addition he studied at St. Bartholomew's Hospital, and during the Crimean war he went out with Miss Florence Nightingale and her nurses, being placed in charge of the British hospital at Smyrna. After serving for one year he returned to London and obtained the appointment of assistant physician to the London Hospital. He was also sanitary officer to the Hospital for the Paralysed and Epileptic in Queen-square, and in addition was for nearly 40 years medical officer of health of the Holborn district. At one time he was lecturer on natural philosophy at St. Bartholomew's Hospital and physician to the Royal Insurance Company. He did not write much, but in 1855 he contributed a paper to the *Medical Times and Gazette* on the Complications of Continued Fever. We have said enough to show that this veteran of the profession was a man of wide and varied experience, one of a class which is nowadays getting more and more rare owing to the enormous increase in the detail of every part of medicine, which practically entails that every prominent medical man must be more or less of a specialist.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Ludwig Laqueur, formerly professor of ophthalmology in the University of Strasburg, who was in his seventieth year, having retired some two years ago. He was a pupil of von Gräfe in Berlin and of Liebreich in Paris. For a time he practised in Lyons, where he was lecturer on ophthalmology in the preparatory medical school, but when the Franco-German war broke out he had to serve in the German army. Subsequently he was appointed extraordinary professor in the newly established University of Strasburg, becoming full professor with charge of the eye clinic in 1876. His chief original papers, published mostly in ophthalmological journals, dealt with glaucoma, sympathetic eye affections, refraction anomalies, and the action of atropine and physostigmine.—Surgeon-General Dr. Kaether, the oldest medical officer in the German army, has died at Aix-la-Chapelle, aged 93 years.—Dr. Richard Fleischer, formerly professor of medicine in the University of Erlangen, aged 60 years. He published a good many monographs besides a large text-book on medicine of which some of the volumes have not yet appeared.—Dr. Galvagni, professor of clinical medicine in the Modena Medical School.—Dr. Moissenet, formerly physician to the Paris hospitals.—Dr. Maurice, formerly physician to the Versailles Hospital.

ULSTER HOSPITAL FOR CHILDREN AND WOMEN.—At the annual meeting, held on April 23rd, of the supporters of this institution it was reported that during the year 1908 284 children and 102 women were treated as in-patients, while in the extern department there were 726 women and 2312 children (including 412 eye cases). There were ten intern maternity cases and 257 extern. Help in the form of food, medicine, or clothing was afforded to 30 of the maternity cases. Financially, the income was £1175 2*s.* 9*d.* (exclusive of a bequest invested of £1296 17*s.*), while the expenditure was £1133 1*s.* 2*d.*, leaving a credit balance of £42 1*s.* 7*d.* A sum of £5774 7*s.* has been promised for rebuilding the hospital, but it has been wisely decided not to undertake the work until the amount reaches at least £10,000.

Medical News.

CAMBRIDGE UNIVERSITY.—The following degrees were conferred on April 29th:—

M.D.—A. W. Wakefield, Trinity; S. Gooding, St. John's; E. E. Glynn, Clare; W. F. Buckle, Gonville and Caius; and R. A. Clapham, Emmanuel.
M.B., B.C.—M. W. B. Oliver, Trinity.
B.C.—A. W. D. Firth, Trinity.

Professor Sims Woodhead has been re-appointed the representative of the University on the Council of the Lister Institute of Preventive Medicine.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Justus Bödeker, *privat-docent* of Psychiatry, has been granted the title of Professor.—*Breslau:* An Otological Clinic has just been established with 24 beds and a lecture theatre capable of accommodating 60 students. This is the third university otological clinic established in Prussia.—*Cologne (Medical Academy):* Dr. Franz Dautwiz, senior staff surgeon in the Prussian army and lecturer in medicine, also Dr. Dreesmann, surgeon to the St. Vincent Hospital, have been granted the title of Professor.—*Göttingen:* Dr. Max Voit of Freiburg has been recognised as *privat-docent* of Anatomy.—*Gratz:* Dr. Walter Schauenstein has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Heidelberg:* Dr. Knauff, Professor of Hygiene and Forensic Medicine, will retire at the end of the current session.—*Jena:* Dr. Hermann Dürck of Munich has been appointed Professor of Pathological Anatomy in succession to Professor M. W. Mullen, resigned.—*Kiel:* The honorary Doctorate of Medicine has been conferred on Professor Johanna Mestorf, the venerable lady director of the Schleswig-Holstein Antiquarian Museum, in consideration of her valuable prehistoric anthropological researches. She is retiring from the post she has held for very many years on her eightieth birthday.—*Lemberg:* Dr. Wilold Nowicki has been recognised as *privat-docent* of Pathological Anatomy.—*Padua:* Dr. Tamassin, Professor of Forensic Medicine, has been appointed a Senator of the kingdom of Italy.—*Vienna:* Dr. Egon Ranzi has been recognised as *privat-docent* of Surgery.

UNIVERSITY OF OXFORD.—The following dates of examinations have been announced:—Examination for M.Ch. Degree: The examination for the Degree of Master in Surgery will commence at 10 A.M. in the medical department at the museum an Thursday, June 24th. Names must be sent in to the assistant registrar at the University Registry not later than 10.30 A.M. on Friday, June 4th. The statutable fee (£5) and the required certificates must be given in at the same time. Examination for the D.P.H.: The examination for the Diploma in Public Health will commence on Tuesday, Nov. 16th, at the museum. Both parts may be taken together at the same examination or they may be taken at separate examinations, but no one will be deemed to have satisfied the examiners in Part II. unless he has satisfied the examiners in the subjects of Part I. The fee for each part is £5. Names of candidates and fees must be sent in not later than 10.30 A.M. on Tuesday, Oct. 26th, to the assistant registrar, from whom all particulars can be obtained.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—The Incorporated School of Tropical Medicine gives instruction in tropical medicine for the diploma in that subject which is granted by the University of Liverpool, and the period of instruction lasts for three months. Two of these courses are given in the year, the one from Jan. 6th to April 5th, and the other from Sept. 15th to Dec. 13th. In the summer there is held the short course which lasts from June 1st to June 30th. At the end of this short course an examination is held and a certificate of satisfactory attendance is granted to those who pass the examination. This certificate excuses holders from attendance during the first four weeks of the full Lent and autumn courses, one of which is necessary for the diploma. The short course has been specially designed for those medical men who are at home on leave and who have not the time to attend the full course for the diploma. It consists entirely of practical and clinical laboratory work given at the University laboratory and at the Royal Southern Hospital. During this short course the instruction on parasitology will be given by Dr. J. W. W. Stephens and that on medical entomology by Mr. Robert Newstead. The course also includes instruction in the microscopic diagnosis of malaria. The fee for the course is 4 guineas, and applications to attend it are to be sent to the Dean of the Medical Faculty, University of Liverpool. The fee must be paid in advance to the secretary of the school, B 10, Exchange Buildings, Liverpool.

UNIVERSITY OF LONDON.—A course of eight lectures on the "Structure and Functions of the Central Nervous System" will be given in the Physiological Institute of University College by Dr. W. Page May on Tuesdays at 5 P.M., beginning on Tuesday, May 11th. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards.

THE GLASGOW UNIVERSITY CLUB, LONDON.—The members of this club will dine at the Trocadéro Restaurant on May 25th at 7.30 P.M. The Right Hon. Alexander Ure, K.C., M.P., Lord Advocate, will take the chair. Members who intend to be present or to introduce guests are requested to give notice as early as possible to Mr. W. Craig Henderson, 2, Paper-buildings, Temple, London, E.C.

THE annual meeting of the Children's Country Holidays Fund will be held at the Whitehall Rooms, Hotel Metropole, on Tuesday, May 18th, at 4.30. H.R.H. the Duchess of Albany will preside. The speakers will include the Right Hon. the Earl of Erroll, the Right Hon. Herbert Samuel, M.P., the Lord Bishop of Stepney, and Mrs. Scharlieb, M.D.

ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of the Institute will be held at the Council Chamber, Guildhall, Norwich, on Saturday, May 22nd, at 11 A.M., when a discussion will take place on the Special Features of the Travis Hydrolytic Systems of Sewage Tanks Constructed for Norwich. The discussion will be opened by Mr. Arthur E. Collins, M.Inst.C.E., city engineer, Norwich. The chair will be taken at 11 A.M. by Mr. H. D. Searles Wood, F.R.I.B.A., chairman of the council of the Institute.

CHELSEA HOSPITAL FOR WOMEN.—By the kind permission of Mary Countess of Ilchester, a concert in aid of the Chelsea Hospital for Women will be held in the Garden Ball Room at Holland House, Kensington, on Friday, June 11th, at 3 P.M., when the gardens at Holland House will be thrown open to the audience. Tickets, price 21*s.* and 10*s.* 6*d.*, can be obtained from the Countess of Ilchester, Holland House, Kensington, W., the Viscountess Esher, 2, Tilney-street, W., Mrs. Fenton, 27, George-street, Hanover-square, W., and the secretary, Chelsea Hospital for Women, Fulham-road, S.W.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the Council held on May 4th the following examiners were elected for the ensuing year:—*Court A.*—For Conjoint Licence, Diploma in Public Health, and Preliminary—Anatomy: Alexander Fraser and Bertram C. A. Windle. Surgery: Charles A. K. Ball, Alexander Blaney, F. Conway-Dwyer, and Robert J. Harvey. Physiology and Histology: Denis J. Coffey and E. L'Estrange Ledwich. Pathology and Bacteriology: Arthur Hamilton White. Midwifery and Gynæcology: Frederic W. Kidd. Biology: John J. Burgess. Ophthalmology: Arthur H. Benson, Herbert H. B. Cunningham, and Herbert C. Mooney. Sanitary Law and Vital Statistics: Matthew J. Russell. Engineering and Architecture: James H. Fergusson. Languages: William Kennedy. Mathematics, Physics, Dictation, and English Essay: J. W. Tristram. *Court B.*—Fellowship, Licence in Surgery (for registered practitioners), Licence in Midwifery (for registered practitioners), and Licence in Dental Surgery—Anatomy: Alexander Fraser and Edward P. McLoughlin. Surgery: Charles A. K. Ball, Alexander Blaney, F. Conway-Dwyer, and Leveson G. Gunn. Physiology and Histology: Denis J. Coffey and E. L'Estrange Ledwich. Pathology and Bacteriology: Robert J. Rowlett and Arthur Hamilton White. Midwifery and Gynæcology: Frederic W. Kidd. Chemistry and Physics: Edwin Lapper and Robert J. Montgomery. Dental Surgery and Pathology: George

M. P. Murray and William G. Story. Mechanical Dentistry: Daniel L. Rogers and Edward L. Sheridan.

THE King has sent a present of linen to the Chelsea Hospital for Women.

A DORSET CENTENARIAN.—William Butler of Newtown, Branksome, has recently completed his hundredth year.

THE German Society of Orthopædic Surgery has elected Professor Joachimsthal as president during the coming year, and the German Surgical Society has elected Professor Bier of Berlin as its next president.

Mr. Frederick Weatherly, M.R.C.S. Eng., L.S.A., J.P., of Portishead, Somerset, who has entered his ninetieth year, has just resigned the position of chairman of the Long Ashton board of guardians. Mr. Weatherly was coöpted as second vice-chairman.

DONATIONS AND BEQUESTS.—The Brompton Hospital for Consumption has received from Washington cheques for $1000 (£200) and $500 (£100), representing the prizes awarded to the hospital and the Frimley Sanatorium at the recent International Tuberculosis Congress.—Mr. John Coles of Tiverton has given another £1000 to the funds of the Tiverton (Devon) Infirmary.

LONDON SCHOOL OF TROPICAL MEDICINE.—The number of students desirous of taking out the course at the London School of Tropical Medicine has increased so rapidly that the accommodation of the school has been strained to its limits, and the committee regrets that it is unable to accept any further students for the present course, though in special cases application may be made to the director in case a vacancy has occurred. There is still room for students who desire to take out the advanced courses. The next session will commence on Oct. 1st.

MIDWIVES ACT COMMITTEE.—The eleventh meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act was held at the Privy Council Office on May 5th, Mr. Almeric W. FitzRoy, the clerk of the Council, presiding. Evidence was tendered on behalf of the British Medical Association by the following witnesses: Mr. J. Smith Whitaker, medical secretary of the Association; Mr. C. E. S. Flemming, Bradford-on-Avon; Dr. L. S. McManus, Wandsworth; and Dr. J. H. Taylor, Salford.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual general meeting of this association is to take place this year on July 6th at the Guildhall, London, and a conference will there be opened on the Report of the Royal Commission with regard to Poor-law Medical Relief. The Lord Mayor has promised to open this conference at 11 A.M. in the Council Chamber of the Guildhall. All Poor-law medical officers in England and Wales are invited to attend and any desiring to read papers at the conference should send abstracts of such papers to the honorary secretary of the association, Dr. M. Greenwood, 243, Hackney-road, London, N.E.

THE NOTIFICATION OF GLANDERS: AN EXEMPLARY PENALTY.—According to a *Times* report, on May 3rd Sir A. De Rutzen at Bow-street police court completed the hearing of nine summonses against the London Parcels Delivery Company, Limited, and their superintendent, George Clawpett, charging the company with contravening the Notification of Glanders Order, 1907, by failing to give notice to the local authority or the police of the presence of one diseased and eight "suspected" horses in certain of their stables. In our issue of March 13th we reported an inquest on the body of Charles Edward Davis, a horsekeeper, who was found to have died in St. Thomas's Hospital from glanders. This man had been employed by the defendants, and in the present prosecution it was given in evidence that since his death all their horses have been examined and 200 slaughtered. The defence raised was the difficulty of diagnosing the disease in animals not suspected of it, several veterinary surgeons deposing that a horse which reacted to mallein might work for several years and never show any signs of glanders. The magistrate held the defendants to blame in not having called in veterinary aid sooner than they did, and fined each defendant the maximum penalty of £20 on four of the summonses and 1*s.* each on the other five, a total of £80 5*s.*; and he ordered the company to pay £26 5*s.* costs. There is little doubt that this salutary judgment was based on the unfortunate death due to the outbreak. It should serve to bring home to the owners of stables the dangers of disobeying an order framed in the necessary interests of public protection.

ROYAL INSTITUTION.—The annual meeting of the members of the Royal Institution was held on May 1st, Sir James Crichton-Browne, treasurer and vice-president, being in the chair. The annual report of the committee of visitors for the year 1908, testifying to the continued prosperity of the institution, was read and adopted, and the report on the Davy Faraday Research Laboratory of the Royal Institution, which accompanied it, was also read. 48 new members were elected and 63 lectures and 19 evening discourses were delivered in 1908. 936 volumes were added to the library in the year. The following gentlemen were unanimously elected as officers for the ensuing year: President, the Duke of Northumberland. Treasurer, Sir James Crichton-Browne. Secretary, Sir William Crookes. Amongst the managers elected were Sir Thomas Barlow, Bart., Dr. Donald William Charles Hood, Sir Francis Laking, Bart., and the Right Hon. Sir John Fletcher Moulton; and amongst the visitors Dr. William Arthur Brailey, Dr. James Mackenzie Davidson, Mr. John William Gordon, Dr. James Dundas Grant, Sir Philip Magnus, and the Hon. Charles A. Parsons.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Budget.

THE Budget, which was brought in by the CHANCELLOR of the EXCHEQUER on Thursday, April 29th, engrosses the attention of Parliament. Its readjustment of the scheme of taxation proceeds on lines which must necessarily cause considerable controversy. In fact, it promises to be the great dominating issue of the session. There are proposals in the Budget with regard to the death duties, stamps, licence duties, and the taxation of land which will undoubtedly receive a very critical and prolonged examination from the Opposition. To professional men one of the most vital parts of a Budget is the income-tax. This year a further step in the direction of graduation and differentiation is taken. The rates upon the earned income of persons whose total income does not exceed £3000 are to remain at 9*d.* in the £ up to £2000, but are to be 1*s.* in the £ for the amount between £2000 and £3000. Large incomes and unearned incomes, which have been paying 1*s.* in the £, will have to pay 1*s.* 2*d.* in the £. A super tax of 6*d.* in the £ comes into operation in the case of incomes exceeding £5000, but in this case an abatement on £3000 will be allowed. One of the proposals of Mr. LLOYD GEORGE in regard to the income-tax at least will enjoy a wide measure of popularity. A person whose income does not exceed £500 is to be permitted a special abatement of £10 in his assessed income for each child he has under the age of 16 years. In one part of his Budget the CHANCELLOR of the EXCHEQUER makes a differentiation for medical men. He proposes a new tax on motor-cars, but medical men are only to pay half the tax that other possessors of cars are to be called upon to contribute. The motor-car tax is to be graduated according to the horse power of the vehicle. The tax on cars under 6½-horse power is placed at 2 guineas. Cars of 26-horse power are charged 6 guineas, but the tax rapidly rises on vehicles of the highest power. A 60-horse power vehicle will pay 20 guineas, but a car over that power will have a charge of 40 guineas placed on it. Funds derived from this source will go to the improvement of roads.

Accidents in Mines.

An interesting discussion arose on the subject of accidents in mines in the House of Commons on April 28th. Mr. GLOVER brought forward a demand that the staff of mine inspectors should be augmented to secure the more rigorous application of the laws affecting mining. The reply of Mr. HERBERT SAMUEL, who spoke for the Home Office, was deemed so satisfactory that no division was taken on the subject. The gist of it was that if the Royal Commission on Mines reported in favour of an increase of the staff of inspectors the Home Secretary would have no hesitation in pressing on the Treasury the necessities of the situation. In the course of his speech Mr. SAMUEL pointed out that in France and in Belgium the percentage of deaths in mines was slightly less than in this country, and further expressed the belief that the irreducible minimum of fatal accidents had not been reached here.

Medical Officers of Health.

Mr. BOWERMAN'S Bill relating to housing of the working classes contains a clause dealing with the position of county medical officers of health. It lays down that every county council shall appoint a medical

officer of health, that he shall only be removable from office with the consent of the Local Government Board, that he shall not be appointed for a limited time only, and that he shall not engage in private practice nor hold any other public appointment without the express written consent of the Local Government Board.

Street Accidents in Scotland.

At the instance of the Lord Advocate a return has been ordered by the House of Commons showing for Scotland the number of accidents resulting in death or personal injury known to the police to have been caused in streets, roads, or public places by vehicles during the year ended Dec. 31st, 1908. A somewhat similar return is being compiled for England and Wales under the supervision of the Home Office.

The Royal Commission on the Poor-laws.

Amongst the papers just issued by the Royal Commission on the Poor-laws is one on the overlapping of the work of voluntary general hospitals with that of medical relief. The report on Ireland has also been published. The literature on the relief of distress which has been compiled at the instance of the Commission is becoming most voluminous. Even those Members of Parliament who devote most attention to the topics which the Commission investigated have difficulty in keeping themselves informed of the main features of these reports. There is no likelihood that legislation will be brought forward in respect to the Poor-laws and the relief of distress until next year. Time will thus be given to Members interested to master the facts set forth in the documents published by the Commission.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 28TH.

Consumptive Passengers on Board Ship.

Mr. WEIR asked the President of the Board of Trade whether he was aware that the steamship *Ionian*, which left Montreal and Quebec for Glasgow early in July, 1908, had on board in the second class several persons suffering from consumption, some in an advanced stage; and, seeing that no isolation was effected, would he suggest to steamship companies that in future consumptive passengers should be carried in deck cabins only instead of below deck where no isolation against infection was possible?—Mr. TENNANT (who replied on behalf of Mr. CHURCHILL) said: I am informed that one of the second-class passengers on the voyage referred to was a person suffering from consumption, that he was isolated from the other passengers, and that the cabin was afterwards disinfected. I believe that the steamship companies are fully alive to the necessity of isolating these cases.

Mr. WEIR: Was it not found on inquiry that the person was not isolated?

Mr. TENNANT: That is not in accordance with our information, but I will make further inquiry.

The Royal Commission on Sewage Disposal.

Mr. CARLILE asked the President of the Local Government Board what was the total cost up to March 31st, 1909, of the Royal Commission on Sewage Disposal; what was the estimated further expenditure of this Commission; whether the Local Government Board had adopted the recommendations made by the Commission in its fifth report; and what were the present regulations of the Local Government Board as to sewage disposal.—Mr. BURNS answered: The Royal Commission was appointed in 1898. The total cost up to March 31st last was £56,061 including the net cost of stationery and printing, but excluding the cost of accommodation. I understand that an estimate has not been framed of the future expenditure which may be required. The Local Government Board is acting on the recommendations made by the Royal Commission in their fifth report. It is its practice to advise local authorities to carry out these recommendations, but it has not issued any regulations on the subject.

The Poor-law Commission in Scotland.

Mr. GULLAND asked the Prime Minister when the report of the Poor-law Commission dealing with Scotland would be issued.—Mr. ASQUITH answered: I am not in a position at this moment to give any definite information.

Malta Fever amongst the Civil Population.

Mr. LUPTON asked the Under Secretary of State for the Colonies what was the number of cases of Malta fever, and also of simple continued fever, which had occurred among the civil population of Malta during each of the years from 1897 to 1908 inclusive.—Colonel SEELY furnished the following written reply: The number of cases of Mediterranean fever and of simple continued fever in the years mentioned is as follows:—

Year.	Mediterranean fever.	Simple continued fever.
1897	568	107
1898	510	125
1899	822	114
1900	642	80
1901	624	60
1902-3 (financial year)...	589	66
1903-4 ,, ,, ...	573	35
1904-5 ,, ,, ...	663	26
1905-6 ,, ,, ...	822	22
1906-7 ,, ,, ...	714	42
1907-8 ,, ,, ...	501	5
1908-9 ,, ,, ...	463	11

THURSDAY, APRIL 29TH.

Poor-law Medical Officers in Scotland.

Mr. CATHCART WASON asked the Lord Advocate whether he would state what parish councils in Scotland had opposed granting to Poor-law medical officers protection against arbitrary dismissal, and also the same privileges as were enjoyed by medical officers in England and Ireland.—Mr. URE furnished the following written reply: The proposal has not, so far as I am aware, reached a stage which has provoked the active expression of opinion on the part of parish councils. On this point I can add nothing to the reply recently given to my honourable friend.

Mr. WASON also asked whether the Lord Advocate was aware that in several districts in the Highlands and islands the poor had suffered from the action of certain parish councils in their treatment of medical officers; and whether, in view of this fact, and that the question had been brought up at every election during the last ten years and that candidates invariably had expressed themselves favourable to a proposal which would indirectly benefit the poor, he would reconsider the position.—Mr. URE answered: I am not aware of any cases in which the poor have suffered through the action of the parish council in the treatment of their medical officer. If the hon. member will specify such a case full inquiry will be made by the Local Government Board. I am not aware that the question has been brought up at every election during the last ten years and that the candidates invariably have expressed themselves favourable to a proposal which would indirectly benefit the poor.

Beri-Beri amongst Lascars.

Mr. COOPER asked the President of the Board of Trade whether his attention had been directed to a report and statistics published by Dr. Braddon, State surgeon of Negri Sembilan, in the Federated Malay States, supporting the theory that beri-beri was caused by uncured stale white rice being used as food; and whether he would consider the advisability of requiring that only cured rice should be used for the food of lascars on British ships.—Mr. CHURCHILL (by written answer) replied: I am aware of the theory held by Dr. Braddon and other medical men that beri-beri is attributable to the consumption of uncured stale white rice; and of the investigations into the question which are being conducted in the Federated Malay States. The Board of Trade are in communication with the Royal College of Physicians in regard to the steps to be taken for the prevention of the disease on board ship, and when their views have been received the suggestion made by my honourable friend in the latter part of his question will be considered.

MONDAY, MAY 3RD.

The Pollution of Rivers by Trade Effluents.

Mr. CLOUGH asked the President of the Local Government Board whether, before the Whitsuntide recess, he would introduce legislative proposals for dealing with the pollution of rivers and streams caused by the discharge therein of trade effluents.—Mr. BURNS replied: The matter is receiving my attention, but I cannot at present fix a time for the introduction of the Bill.

TUESDAY, MAY 4TH.

Small-pox in Bristol.

Mr. LUPTON asked the President of the Local Government Board whether two revaccinated nurses at the Cossham Hospital, Bristol, recently took small-pox within two years of revaccination; and whether he would inform the House from what source the lymph used in revaccinating these nurses had been obtained.—Mr. BURNS replied: Two nurses of the hospital while attending cases of small-pox had slight attacks of an illness which was thought to show the initial symptoms of small-pox. Neither had an eruption of any kind and both were well within three or four days. They had been revaccinated within two years but I am unable to say from what source the lymph used was obtained.

Mr. LUPTON also asked the right honourable gentleman whether during the late outbreak of small-pox in Bristol the many unvaccinated children in the city showed any special liability to take the disease.—Mr. BURNS answered: Any comparison between vaccinated and unvaccinated children in relation to this matter should be made in respect of those children only who were exposed to infection. At Bristol the persons who suffered from small-pox or were in contact with them were so carefully supervised that few unvaccinated children were so exposed. Of the children under 14 who were exposed to infection nine were attacked by the disease. Of these nine two had been vaccinated. Both attacks were abortive. The remaining seven children were unvaccinated, except that two of them were vaccinated during the incubation of the disease. Of these seven three died, all of whom suffered from confluent or black small-pox.

The Reports of the Poor-law Commission.

Sir WILLIAM BULL asked the President of the Local Government Board whether he was, or contemplated, carrying into effect administratively any, and, if so, what, recommendations of either of the reports of the Poor-law Commission.—Mr. BURNS answered: I am not able to give a definite reply to this question at present, but the matter to which it relates is receiving my attention.

The Death-rate in the Transvaal Mines.

Mr. FELL asked the Under Secretary of State for the Colonies whether the death-rate from disease for the last quarter of the year 1908 among the blacks engaged in the mines in the Transvaal was nearly five times as great as the death-rate among the Chinese; and what was the explanation of this discrepancy.—Colonel SEELY replied: The death-rates were: black, 31·601; Chinese, 6·788. The Chinese rates are habitually lower than the natives, but the native death-rate shows a considerable increase. Inquiry will be made as to the cause of this increase.

WEDNESDAY, MAY 5TH.

Seizure of Meat at Hull.

Mr. FFRENCH asked the President of the Local Government Board whether he was aware that the inspectors at Hull found during the last quarter large numbers of livers infected with parasites, such as immature tapeworms and flukes; whether out of ten plucks from Rotterdam six livers were seized in one ship, and six out of a consignment of 20 in another ship; whether in addition seven pig livers, one pig pluck, and calf liver were destroyed as unfit for human food; whether all this came in with the Danish Government label certifying it fit for human food; and if so, what action did he propose to take.—Mr. BURNS answered: The facts as to the articles condemned are substantially as stated in the question, except that the consignments appear to have been contained in packages bearing labels attesting inspection by the Dutch and not by the Danish Government. I have asked to be informed of all cases in which it is found necessary to condemn certified meat such as is referred to in the question, with a view to communication being made to the foreign authorities concerned.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London.

Lectures on Diseases of Children. By Robert Hutchison, M.D., F.R.C.P. Second edition, revised and enlarged. Price 8s. 6d. net.

BAILLIÈRE, TINDALL, AND COX, London.

A Text-book of Diseases of the Ear. By Professor Dr. Adam Politzer. Translated at the personal request of the Author, and edited by Milton J. Ballin, Ph.B., M.D., and Clarence L. Heller, M.D. Fifth edition, revised and enlarged. Price 25s. net.

Aids to Forensic Medicine and Toxicology. By William Murrell, M.D., F.R.C.P. Seventh edition. Sixteenth thousand. Price, paper, 2s. net; cloth, 2s. 6d. net.

CHURCHILL, J. AND A., London.

Southall's Organic Materia Medica. By John Barclay, B.Sc. Lond., F.C.S. Seventh edition. Revised and enlarged by Ernest W. Mann, Pharmaceutical Chemist. Price 7s. 6d. net.

A Text-book of Materia Medica. By Henry G. Greenish, F.I.C., F.L.S. Second edition. Price 15s. net.

FIFIELD, A. C., London.

Wastage of Child Life as Exemplified by Conditions in Lancashire. By J. Johnston, M.D. Edin. The Fabian Socialist Series, No. 7. Price 1s. net.

HARPER AND BROTHERS, London and New York.

The Ether of Space. By Sir Oliver Lodge, F.R.S. Price, cloth, 2s. 6d. net; leather, 3s. 6d. net.

HIRSCHWALD, AUGUST, Berlin.

Grundriss der Klinischen Diagnostik. Von Dr. med. Georg Klemperer. Fünfzehnte, neubearbeitete Auflage. Price M.4.

Zwei Schlussjahre klinisch-chirurgischer Tätigkeit. Von Prof. Dr. Ernst Küster. Price M.12.

KARGER, S., Berlin.

Über die Struktur und die Pathogenese der Gallensteine. Von Dr. med. J. Boysen. Mit einem Vorwort von Prof. Dr. Th. Rovsing. Price M.4.

Über die Entstehung und Verbreitung der Tuberkulose im weiblichen Genitaltrakte. Von Dr. Albert Blau. Price M.4.

Uber die Behandlung der Geburten bei engen Becken. Von Dr. E. Scipiades. Price M.7.

MILLS AND BOON, LIMITED, London.

Holborn Hill. A Story of Nelson's Day. By Christian Tearle. Price 6s.

NISBET, JAMES, AND CO., LIMITED, London.

The Operative Treatment of Chronic Constipation. By W. Arbuthnot Lane, M.S., F.R.C.S. Price 2s. 6d. net.

REINHARDT, ERNST, München.

Blutungen und Ausfluss aus dem Uterus, ihre Ursachen und Behandlung. Von Hofrat Dr. A. Theilhaber. Price M.2.50.

SPRINGER, JULIUS, Berlin.

Moritz Schmidt. Die Krankheiten der oberen Luftwege. Aus der Praxis für die Praxis. Vierte, umgearbeitete Auflage. Von Professor Dr. Edmund Meyer. Price M.22.

STONE AND COX, London.

The "Omnicert." Price not stated.

TAYLOR AND CARPENTER, Ithaca, N.Y., U.S.A.

Pure Milk and the Public Health. A Manual of Milk and Dairy Inspection. By Archibald Robinson Ward, B.S.A., D.V.M. With two Chapters by Myer Edward Jaffa, M.S. Price $2.00 net, postpaid.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAMS, C. E., M.B. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Loughton District of the county of Essex.

BEVIR, GEORGE, L.R.C.P. Lond., M.R.C.S., has been appointed *pro tem.* Medical Officer for the Timsbury District by the Clutton (Somerset) Board of Guardians.

BLACK, LEWIS POTTER, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., D.P.H. Lond., has been appointed Medical Officer of Health for the St. Thomas Rural District Council (Devon).

CHISOLM, R. A., M.B. Oxon., M.R.C.P. Lond., has been appointed Greville Cancer Research Student at Guy's Hospital.

COLLINS, JOHN RUPERT, M.D., B.Ch., B.A.O. Dub., has been appointed Honorary Pathologist to the Cheltenham General Hospital and Dispensary.

CRISP, JAMES ELLIS, M.R.C.S., L.S.A., has been appointed Medical Officer for the Lacock District by the Chippenham (Wilts) Board of Guardians for one year.

DOWDING, E. F. C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the King's Cliffe District of the county of Northampton.

FLETCHER, D., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Portree District of the county of Inverness.

GIBBS, STANLEY RIDER, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Barnstaple (Devon) Board of Guardians.

HINGSTON, CHARLES ALBERT, M.D., B.Sc. Lond., M.R.C.S., has been appointed Honorary Consulting Physician to the Crownhill Convalescent Home, near Plymouth.

PIKE, NORMAN HOWARD, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon for the Eye, Ear, and Throat Department of the Cheltenham General Hospital and Dispensary.

PRITCHETT, GEORGE WILLIAM MORRIS, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Liskeard (Cornwall) Board of Guardians.

SHEARER, ALFRED, M.B., Ch.B. Edin., has been appointed District Medical Officer by the Newton and Llandiloes (Montgomeryshire) Board of Guardians.

SHINGLETON-SMITH, LIONEL, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Brecknock Union (Brecon) Workhouse.

SHORTEN, W. J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Duncannon District of the county of Waterford.

SOLTAU, ALFRED BERTRAM, M.D. Lond., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Physician to the Crownhill Convalescent Home, near Plymouth.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, &c.

BARNSLEY, BECKETT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and lodging.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £170 per annum, with rooms, fire, lights, and attendance.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Salary at rate of 52 guineas per annum.

BRIGHTON, HOVE, and PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £130 per annum, with board and residence.

BURY INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and attendance.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, also Assistant House Surgeon, both unmarried. Salaries £80 and £60 per annum respectively, with board and lodging.

CATERHAM ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

CHICHESTER, WEST SUSSEX COUNTY ASYLUM AND GRAYLINGWELL MENTAL HOSPITAL.—Locum Tenens for 16 weeks. Salary 3 guineas a week, with full board, rooms, attendance, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Clinical Assistant.

CORPORATION OF LONDON, PUBLIC HEALTH DEPARTMENT.—Sanitary Inspector (female). Salary £120 per annum, rising to £200.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician. Salary at rate of £60 per annum, with board, residence, and washing.

GATESHEAD DISPENSARY.—Assistant Medical Officer. Salary £200 per annum.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board and residence.

HUDDERSFIELD INFIRMARY.—House Surgeon. Also Junior House Surgeon. Salaries £100 and £80 per annum respectively, with board, lodging, and washing.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—Senior House Surgeon. Also Two House Surgeons. Salary of former £80 per annum and of two latter £65 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Demonstrator in Anatomy and Curator of the School Museum (females).

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salary £25, with board and residence.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and laundry

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.

NEWCASTLE-UPON-TYNE CITY LUNATIC ASYLUM, Gosforth.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, board, and laundry.

NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150 per annum, with board, lodging, washing, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Hunterian Professors and Arris and Gale Lecturer for the ensuing year.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Third House Surgeon. Salary at rate of £50 per annum, with board and residence.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

SHEFFIELD, ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.
STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees.—House Surgeon, unmarried. Salary £160 per annum, with residence, board, and washing.
SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, attendance, and laundry.
TUNBRIDGE WELLS GENERAL HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary £80 per annum, with board, apartments, &c.
WAKEFIELD, WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, washing, and attendance.
WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and service.
WALLINGFORD, BERKS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with board, apartments, attendance, &c.
WARRINGTON INFIRMARY AND DISPENSARY.—Senior House Surgeon, also Junior House Surgeon. Salary of former £120 and of latter £100 per annum, with board, &c.
WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Locum Tenens Medical Officer, unmarried. Salary 4 guineas per week, with apartments, board, &c.
WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.
WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.
WILTS COUNTY COUNCIL GENERAL EDUCATION COMMITTEE.—Senior and Junior Medical Inspectors of School Children. Salary of former £400 and of latter £250, with travelling expenses in each case.
WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also Two House Surgeons. Salary of former £100 per annum, and of two latter £80 per annum, with board, lodging, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Haywards Heath, in the county of Sussex; at Grassington, in the county of York; at Robertsbridge, in the county of Sussex; and at Newbury, in the county of Berks.

Births, Marriages, and Deaths.

BIRTHS.

CARTER.—On April 29th, at Edgar-buildings, Bath, the wife of Stuart Carter, L.D.S. R.C.S. Eng., of a son.
HANDLEY.—On May 2nd, at 12, New Cavendish-street, W., to Mr. and Mrs. W. Sampson Handley, a son.
KEMPTHORNE.—On April 25th, at Mussoorie, India, the wife of Captain G. A. Kempthorne, R.A.M.C., of a daughter.
MELVILLE.—On May 2nd, at The Oaks, Leatherhead, the wife of Lieutenant-Colonel C. H. Melville, R.A.M.C., of a daughter.

MARRIAGES.

CLARK—BURNELL.—On April 29th, at St. Mark's Church, Sheffield, by the Rev. C. C. Ellis, M.A., Vicar of St. Bartholomew's, John Clark, M.B., C.M. Edin., of Radcliffe, Lancs., to Alice, second daughter of C. S. Burnell, Esq., of Astley House, Northumberland-road, Sheffield.
KIRK—THOMSON.—On March 27th, at the Presbyterian Church, Penang, Straits Settlements, by the Rev. Ernest Lawson, M.A., James Kirk, M.D. Edin., third son of Mr. James Kirk, Bishopton, Renfrewshire, N.B., to Caroline Isabella, youngest daughter of Mr. John Grant Thomson, Heathfield, Granton-on-Spey, Scotland.
MIDDLETON—HUNT.—On April 29th, at St. Andrew's Cathedral, Singapore, by the Rev. H. C. Izard, Colonial Chaplain, William Robert Colvin Middleton, M.A., M.B., C.M., D.P.H., Medical Officer of Health for Singapore, and son of the late Rev. William Middleton, Government Chaplain, Kurachee, Scinde, to Ethel Hunt Hunt, third daughter of the late George Taylor Bakewell, and widow of J. Brooke Hunt, Woodford, Essex.
PARROTT—FIRMINGER.—On April 29th, at All Saints' Church, Upper Norwood, Hugh McDowall Parrott, M.B., B.S. Lond., to Ruth, daughter of B. Firminger, late of West Park, Eltham.
SAINT—EVANS.—On April 29th, at St. Matthew's Church, Willesden, by the Rev. G. H. Newton, M.A., Vicar, assisted by the Rev. R. J. Knowles, M.A., and the Rev. Canon A. E. Humphreys, M.A., the Rev. Frederic Guy Saint, M.A., Rector of Wapping, E., to Frances E. Turle Evans, L.R.C.P. & S. E., L.F.P.S. G., youngest daughter of the late Evan Evans, M.D., Staff-Surgeon, R.N.

DEATHS.

BLANSHARD.—On March 13th, at Killarney, Queensland, George Easingwood Blanshard, L.R.C.P. & S. Edin., third son of the late George Blanshard, Edinburgh, aged 49 years.
CLIFTON.—On April 27th, at Fordingbridge, James Clifton, M.R.C.S., L.S.A.
KYNSEY.—On April 27th, at Priory-grove, The Boltons, S.W., Herbert Arthur Kynsey, M.R.C.S., L.R.C.P., D.P.H., aged 41 years.
MILLER.—At The Laurels, Woodgrange-road, Forest Gate, on the 28th April, Robt. Miller, M.D., eldest surviving son of the late John Miller, Beith, aged 51 years.
RAMSAY.—On April 29th, at Cotswold Sanatorium, Herbert Murray Ramsay, F.R.C.S., aged 45 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE CHILDREN ACT AND PUBLIC HOUSES.

ACTS of Parliament frequently produce results in directions quite unexpected. It would be impossible to quarrel with the motive of Section 120 of the Children Act, which seeks to exclude children under 14 years of age from the interiors of public-houses. But if references, serious and humorous alike, which we have read in the daily press have any foundation, it has been pitiable recently to see crowds of children left standing outside the public-houses in the bitter evening winds, while their parents and guardians were regaling themselves in the warm bar. It is claimed that the new Act will protect children, among other evils, from undue exposure to night air, but this loitering of children outside public-houses will do much to counteract any such tendency for good. In country places where space is available the matter can, no doubt, be gradually dealt with by the provision of proper outside shelters, and this point can probably be safely left in the hands of the licensing justices, for it is evident from questions asked of the Home Secretary in the House of Commons that the justices are in general disposed to require alteration in construction of licensed premises to meet the requirements of this Act. Unless some movement is made in this direction, the exposure of children, thus hanging motionless about street corners, must be very prejudicial to general health. Further, the licensing authorities would do well to consider the provision of proper sanitary accommodation suitable for children of either sex, in view of the probability of crowds of children being thus detained for perhaps long periods of time, otherwise unpleasant violations of public decency must occur, as much of the existing accommodation in public-houses would not be accessible to children under the requirements of the Act.

A CURIOUS CAUSE OF FOOT SORENESS.

To the Editor of THE LANCET.

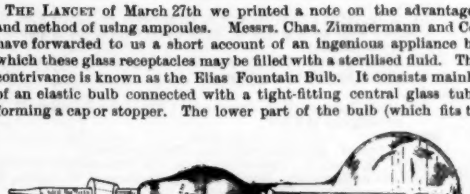
SIR,—The following case may be of interest as showing an unsuspected cause of "sore feet." A woman of 40 complained of heat and soreness of the soles of the feet. Her occupation compelled her to be on her feet the greater part of a 16-hour day, and she noticed that towards evening the pads of the soles under the toes became acutely painful and hot. Along the line of greatest friction and pressure was a layer of indurated skin, the soft pads above being very sore and hot, causing a sensation as though spicules of glass were imbedded in it. On careful examination numerous worsted hairs were found projecting from the skin, requiring the patient use of fine forceps for their withdrawal. The removal of these hairs and a change to cotton stockings removed a cause of lameness and fatigue which had existed for years.

I am, Sir, yours faithfully,
LÆTITIA H. ANDREW-BIRD, L.R.C.P. Irel.

De Beauvoir-road, N., May 1st, 1909.

AN AMPOULE FILLER.

IN THE LANCET of March 27th we printed a note on the advantages and method of using ampoules. Messrs. Chas. Zimmermann and Co. have forwarded to us a short account of an ingenious appliance by which these glass receptacles may be filled with a sterilised fluid. The contrivance is known as the Elias Fountain Bulb. It consists mainly of an elastic bulb connected with a tight-fitting central glass tube forming a cap or stopper. The lower part of the bulb (which fits to



the neck of the bottle or flask) is provided with air channels or perforations communicating with the interior of the vessel, so as to exert pressure on the liquid therein when the bulb is squeezed by the hand. The dispenser sterilises the liquid to be ampouled in a flask or other convenient vessel, and by pressing the rubber bulb the liquid contained in the flask may be forced through the glass tube directly into the ampoule without fear of contamination.

THE EMMANUEL MOVEMENT IN AMERICA.

To the Editor of THE LANCET.

SIR,—During a brief stay in London the writer has become aware of a certain confusion existing in the minds of people between the Emmanuel movement in America and what is known as the Emmanuel Society, the methods and aims of which respectively are quite distinct.

It should be clearly understood that the Emmanuel movement in America, which began three years ago under the leadership of Dr. E. Good Worcester, rector of Emmanuel Church, Boston, in coöperation with some of the leading neurologists of that city, is not a faith-healing movement as that phrase is commonly understood. It does not undertake the cure of any and all diseases, but only those of a nervous or

functional character. In this specialising of its efforts to alleviate suffering it is not limiting the power of God, but attempts the humbler task of learning His will as embodied in the ascertained facts known to medical science as the laws of health and disease.

Hence it does not act independently of, but in constant reliance upon and coöperation with, medical men. No case is taken for treatment unless first diagnosed by a competent physician, preferably a neurologist, who recommends it as likely to yield to the psychical and religious methods employed by the clergymen engaged in the work.

With few exceptions, the leading physicians everywhere in America have welcomed this movement and given it their warmest support. No fees are charged by the clergy, who feel amply rewarded in the larger opportunity for service to their kind, and especially in the reconstruction of moral and spiritual character which the treatment almost invariably effects.

I am, Sir, yours faithfully,

ALBERT B. SHIELDS, A.M. Harvard,
Superintendent and Chaplain of St. Luke's Hospital,
San Francisco, Cal., U.S.A.

WANTED, A HOME.

To the Editor of THE LANCET.

SIR,—Can any of your readers tell me of an institution into which a woman, practically helpless from a paralytic seizure, aged 62 years, can be permanently received? She has 10s. a week, which represents the extent to which she could contribute towards her maintenance. I am, Sir, yours faithfully,

(MRS.) M. FIRTH.

8, Church-circle, S. Farnborough, Hants, April 27th, 1909.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Herbert F. Waterhouse, Walter G. Spencer): at 5.30 P.M.

Papers:

Mr. J. Hutchinson: Auto-inoculation and Reinfection of Syphilis.

Mr. Herbert J. Paterson: Jejunal and Gastro-jejunal Ulcer following Gastro-jejunostomy, with Notes of Two Cases, in One of which Gastric Analyses were made Before and After Operation for Jejunal Ulcer; with an Abstract of 59 Recorded Cases and Observations thereon.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, William J. Gow): at 7.45 P.M.

Short Communication:

Mr. J. Bland-Sutton: Red Degeneration of a Uterine Fibroid, Associated with the Staphylococcus Pyogenes Aureus.

Specimens:

Specimens of Ruptured Uteri will be shown by the President, Dr. W. E. Fothergill, Dr. H. Russell Andrews, Dr. J. B. Hellier, and others.

Papers:

Dr. T. W. Eden: The Operative Treatment of Rupture of the Uterus; with an Account of Three Cases treated by Abdominal Hysterectomy.

Dr. Lionel Smith: The Treatment of Rupture of the Uterus; with a Description of Cases.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries: Raymond Johnson, H. D. Rolleston): at 8 P.M.

Cases:

Dr. F. Spicer: Paralysis of Spinal Accessory Nerve.

Mr. W. G. Spencer: Reduction of an Old Subcoracoid Dislocation of Shoulder, Complicated by Fracture of Humerus, by Excavating the Glenoid Cavity.

Dr Finzi: (1) Inoperable Recurrent Carcinoma of Mamma treated by Radium; (2) Epithelioma of Lip under Treatment by Radium; (3) Arthritis of the Knee treated by Lithium-Iodine Ionisation.

Mr. V. Warren Low: Pneumococcal Cystitis and Arthritis.

Mr. Sidney Boyd: A Patient with Sprengel's Deformity of the Shoulder and Hirschsprung's Disease (Definite Rectal Obstruction).

Dr. McNalty: Aortic Aneurysm (?) in a Boy.

Dr. Parkes Weber: Woman Three Years after Omentopexy and Drainage for Chronic Ascites probably connected with Hepatic Cirrhosis.

Dr. F. de Havilland Hall and Mr. W. G. Spencer: Splenectomy for Splenic Anæmia.

(At 9 P.M.):

Dr. T. Stacey Wilson will show Three Coloured Projection Drawings of the Brain, showing the Relations which the Internal Structures would be seen to have to the Convolutions if the Brain were Transparent.

Paper (at 9.45 P.M.):

Dr. Poynton and Mr. Trotter: A Case of Cardiolysis with a *resumé* of the Operative Measure Practised.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., General Meeting. Election of Officers for 1909-10 Session and Reports of the Various Committees and Council.

8.30 P.M., Mr. J. D. Malcolm: The Treatment of Shock.—Mr. T. H. Kellock: The Association of Appendicitis and Pyosalpinx.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Major H. W. Grattan, R.A.M.C., and Captain D. O. Hyde, R.A.M.C.: Some Points in the Standardisation of Typhoid Vaccine.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Dr. H. J. Macevoy: Paroxysmal Pulmonary Œdema in Bright's Disease.—Dr. B. H. Spilsbury: Some Practical Points in Clinical Bacteriology.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. S. E. Dore: Clinique (Skin). 5.15 P.M., Lecture:—Dr. T. D. Savill: The Treatment of Neurasthenia.

TUESDAY.—4 P.M., Dr. G. Rankin: Clinique (Medical). 5.15 P.M., Lecture:—Mr. T. Walker: The Diagnosis and Treatment of Malignant Disease of the Bladder.

WEDNESDAY.—4 P.M., Mr. C. Ryall: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. O. Hawthorne: The Scope and Purpose of the British Pharmacopœia.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. J. Wethered: The Treatment of Chronic Heart Disease, especially by Mechanical Methods.

FRIDAY.—4 P.M., Dr. S. Spicer: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Diseases of Throat, Nose, and Ear.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Harman: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Diseases of Throat, Nose, and Ear.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture:—Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Plague.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson): X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. W. Edmunds: Knots, Ligatures, and Sutures.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. G. N. Biggs: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth: Tedious Recovery from Illnesses.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Sir William Bennett: The Moral Factor in Relation to the Treatment and Growth of Disease.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.
MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.
WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.
THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.
FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.
TUESDAY.—3.45 P.M., Lecture:—Dr. Atkinson: Pharynx and Naso-pharynx.
FRIDAY.—3.45 P.M., Lecture:—Dr. D. McKenzie: External Ear.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (15th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 6th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April30	29·95	N.W.	0·23	107	53	42	41	45	Cloudy
May 1	30·02	N.W.	0·08	106	50	37	38	42	Cloudy
,, 2	30·32	N.W.	...	100	54	38	45	47	Cloudy
,, 3	30·42	S.W.	...	113	58	42	45	47	Cloudy
,, 4	30·40	S.E.	...	117	64	44	48	53	Fine
,, 5	30·27	S.E.	...	117	63	47	50	55	Fine
,, 6	30·19	S.E.	...	120	66	51	52	57	Fine

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